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## **RSB Policy for certification of biofuels based on end-of-life-products and wastewater**

**RSB reference code: [RSB-POL-01-001 (Version 1.0)]**

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## Introduction

*End-of-life-products* include *Municipal Solid Waste* (MSW) and *Used Cooking Oil* (UCO). These raw materials for biofuels are generated at the end of the life of products that were not produced and intended for the production of biofuel. In this way they have reached the end of their intended supply chain, as they have been consumed, used, are spoiled etc. These end-of-life materials are thus intended to be disposed of and would potentially create environmental and social impacts.

*Wastewater* can be used to produce biofuels or renewable fuels from its components. These include greases, fats and any other lipid-rich material, which can be transformed into biodiesel, as well as starchy material or cellulosic elements, which can be used to produce bioethanol.

Using *End-of-life-products* in biofuel supply chains has therefore economic, social, and environmental benefits. However, it is generally very difficult to trace the origin of these raw materials in the supply chain upstream from the point when they became *End-of-life products*. This is due to the fact that MSW and UCO are generally collected from a large number of sources (households, retailers, restaurants, etc.).

Using the material extracted from *Wastewater* to produce biofuels avoids having to send it to a wastewater treatment plant or dispose of the waste otherwise (e.g., discharge into a waterway). This both reduces the risk to the environment of disposal and decreases the costs of treatment.

This policy describes how biofuels supply chains may use *End-of-life products* or *Wastewater* as a feedstock, and how it impacts on RSB certification.

Throughout this policy, a distinction is made between the RSB global standards and the RSB EU RED Consolidated Standards. Operators willing to enter the EU Market shall only use the RSB EU RED Consolidated Standards and the corresponding requirements in this policy. It is important to note that *Biofuels* that include non-biogenic material are not recognized by the European Union under the Renewable Energy Directive (2009/28/EC).

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### A. Intent of this policy

The intent of this policy is to ensure that the use of *End-of-life-products* or *Wastewater* for biofuel production is appropriately addressed within the *RSB certification systems*, by ensuring that all relevant environmental, social and economic impacts related to their use are being minimized and that the requirements upon *participating operators* using such products are adapted and appropriate.

### B. Scope of this policy

This policy and the *RSB standards* mentioned in it apply to:

- Any operation and operator using *End-of-life-products* and/or any product generated from the processing, transformation or treatment of *End-of-life products* for the purpose of producing biofuel; or
- Any operation and operator using *Wastewater* and/or any product generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuel.

### C. Status and effective date

The Version 1.0 of this *RSB Policy for certification of biofuels based on end-of-life products and Wastewater* shall be effective on November 25, 2011.

### D. Note on use of this policy

All aspects of this policy are considered to be normative, including the intent, scope, standard effective date, note on the use of this standard, references, terms and definitions, and requirements, unless otherwise stated. Users implementing this policy shall ensure that the intent of this policy is met. To ensure that the intent of this policy is met, users shall implement all of the requirements specified in this policy, and all additional measures necessary to achieve the intent of this policy.

### E. RSB List of documents and corresponding reference codes

The following documents are available on the RSB website: <http://www.rsb.org>

RSB-STD-01-001 RSB Principles & Criteria/RSB-STD-11-001-01-011 Consolidated RSB EU RED Principles & Criteria

RSB-IND-01-001 Indicators of Compliance for RSB Principles & Criteria/RSB-IND-11-001-20-001 Indicators of Compliance for RSB EU RED Principles & Criteria

RSB-STD-01-003-01 RSB GHG Calculation Methodology

RSB-STD-01-003-02 RSB Fossil Fuel Baseline Calculation Methodology

RSB-GUI-01-000 RSB Guidance on Principles & Criteria/RSB-GUI-11-001-01-000 Consolidated RSB EU RED Guidance on Principles & Criteria

RSB-GUI-01-002-01 Impact Assessment Guidelines

RSB-GUI-01-002-02 Screening Guidelines

RSB-GUI-01-002-03 ESIA Guidelines

RSB-GUI-01-002-04 RESA Guidelines

RSB-GUI-01-002-05 ESMP Guidelines

RSB-GUI-01-005-01 Social Impact Assessment Guidelines

RSB-GUI-01-006-01 Food Security Assessment Guidelines

RSB-GUI-01-007-01 Conservation Impact Assessment Guidelines

RSB-GUI-01-008-01 Soil Impact Assessment Guidelines

RSB-GUI-01-009-01 Water Assessment Guidelines

RSB-GUI-01-012-01 Land Rights Assessment Guidelines

RSB-DOC-01-001 Use of Terms for the RSB Principles & Criteria (Glossary)/RSB-DOC-11-001-01-001 Consolidated RSB EU RED Use of Terms

RSB-DOC-10-001 RSB List of Documents/ RSB-DOC-11-001-10-001 Consolidated RSB EU RED RSB List of Documents

The following documents are available as excerpts on the RSB website at <http://www.rsb.org>. Full copies can be obtained at no cost by sending an email to [rsb@epfl.ch](mailto:rsb@epfl.ch)

RSB-DOC-10-002 RSB Glossary of Terms/RSB-DOC-11-001-10-002 Consolidated RSB EU RED Glossary of Terms

RSB-STD-20-001 RSB Generic chain of custody standard/RSB-STD-11-001-20-001 Consolidated RSB EU RED Generic chain of custody standard

RSB-STD-20-002 RSB "Identity of product preserved" chain of custody standard/RSB-STD-11-001-20-002 Consolidated RSB EU RED "Identity of product preserved" chain of custody standard

RSB-STD-20-003 RSB "Segregation of product" chain of custody standard/RSB-STD-11-001-20-003 Consolidated RSB EU RED "Segregation of product" chain of custody standard

RSB-STD-20-004 RSB "Mass balance of product" chain of custody standard/RSB-STD-11-001-20-004 Consolidated RSB EU RED "Mass balance of product" chain of custody standard

RSB-STD-20-005 RSB "Content ratio accounting of product" chain of custody standard

RSB-STD-30-001 RSB Standard for participating operators/RSB-STD-11-001-30-001 Consolidated RSB EU RED Standard for participating operators

RSB-STD-50-001 RSB Standard on communication and claims/RSB-STD-11-001-50-001 Consolidated RSB EU RED Standard on communication and claims

RSB-STD-60-001 RSB Standard for risk management/RSB-STD-11-001-60-001 Consolidated RSB EU RED Standard for risk management.

## **F. Terms and definitions**

For the purposes of this policy, the terms and definitions given in *RSB-DOC-01-001 RSB Use of Terms/ RSB-DOC-11-001-01-001 Consolidated RSB EU RED Use of Terms* and *RSB-DOC-10-002 RSB Glossary of Terms/ RSB-DOC-11-001-10-002 Consolidated RSB EU RED Glossary of Terms* shall apply. Additional specific definitions are included in the following sections.

## G. Requirements

For the purpose of this policy, *End-of-life-products* include *Municipal Solid Waste (MSW)* and *Used Cooking Oil (UCO)*.

### 1. Municipal Solid Waste (MSW)

#### 1. 1. Definitions

##### 1. 1. 1. *Municipal Solid Waste*

Based on the definition provided by the United Nations Organization<sup>1</sup>, the following definition applies for this policy:

*Municipal Solid Waste* is defined as municipal waste, collected by or on behalf of municipalities, by public or private enterprises.

The *biogenic fraction* of *Municipal Solid Waste* is called *Biodegradable Municipal Waste (BMW)*.

For the purpose of this policy, *Municipal Solid Waste* includes:

- Waste originating from households and waste that is similar in nature and composition, originating from commerce and trade, small businesses, office buildings and institutions. In general the following components contribute to *Municipal Solid Waste*: Paper; food scraps; yard trimmings; plastics; metals; rubber, leather, and textiles; wood; and glass.
- Waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste.
- Construction and demolition waste (concrete, wood (from buildings), asphalt (from roads and roofing shingles), gypsum (the main component of drywall), metals, bricks, glass, plastics, salvaged building components (doors, windows, and plumbing fixtures), and trees, stumps, earth, and rock from clearing sites.)

For the purpose of this policy, *Municipal Solid Waste* excludes:

- Waste from sewage network and treatment
- Industrial waste
- Special waste requiring separate disposal by law
- Hazardous waste requiring separate disposal by law

##### 1. 1. 2. *Biofuel*

For the purpose of this policy, any fuel derived from *Municipal Solid Waste* that:

- (a) has a *Biogenic Carbon Content*, based on random sampling done at least once every year, of greater than 50% of the total carbon content, by mass; and
- (b) is sorted and pre-processed at a facility that has removed all but trace quantities of any *Recyclable Material*, hazardous material, infectious material or pollutants.

is considered a *Biofuel*.

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<sup>1</sup> <http://unstats.un.org/unsd/environment/wastetreatment.htm>

*Biofuels* based on *Biodegradable Municipal Waste (BMW)* are recognized by the European Union under the Renewable Energy Directive (2009 /28/EC).

*Biofuels* based on *Municipal Solid Waste* are not recognized by the European Union under the Renewable Energy Directive (2009 /28/EC).

1. 1. 3. *Collection Point*

For the purpose of this policy, the *Collection Point* is defined as the latest step in the value chain where *Municipal Solid Waste* or *Biodegradable Municipal Waste* is aggregated before being processed/transformed/treated for the purpose of producing biofuel.

1. 1. 4. *Biofuel Producer*

Any *Participating Operator* processing *Municipal Solid Waste* and any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Municipal Solid Waste* after the *Collection Point* and to produce *biofuel* is considered a *Biofuel Producer*, as per the scope described in the *RSB Principles & Criteria* (RSB-STD-01-001).

1. 1. 5. *Biogenic Fraction*

The *Biogenic Fraction* of MSW is constituted by materials derived from renewable biomass resources, including but not limited to crop residues, food residues, wood residues, grasses, and aquatic plants. The *Biogenic Fraction* of MSW does not include materials derived from petrochemical resources (e.g. plastics).

1. 1. 6. *Biogenic Carbon Content*

The *Biogenic Carbon Content* is the amount of carbon in a product derived from the *Biogenic Fraction* relative to the total amount of carbon in the entire product.

1. 1. 7. *Recyclable Material*

*Recyclable Material* is constituted by every type of glass, paper, metal, plastics, textiles and electronics for which recycling chains exist in the country of operation. Materials derived from biomass, which can be composted, are not considered *recyclable*.

**1. 2. Procedures**

1. 2. 1. *Sustainability Requirements*

- With the exception of Principle 3, Principle 6 and Principle 8, the *RSB Principles & Criteria* (RSB-STD-01-001) and related documents (i.e. guidelines, glossary, guidance and indicators) apply to any intermediary or final *RSB compliant product* generated from the processing, transformation or treatment of *Municipal Solid Waste* after the *Collection Point* onward.
- Principle 3 (Greenhouse Gas calculation) applies to any intermediary or final *RSB compliant product* generated from the processing, transformation or treatment of *Municipal Solid Waste* starting with the transportation of MSW from the *Collection Point* onward.
- Principles 6 and 8 do not apply.

#### 1. 2. 2. *Chain-of-Custody Requirements*

- The following standards apply to *Municipal Solid Waste* and to any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Municipal Solid Waste* for the purpose of producing *Biofuel*, after the *Collection Point* onward:
  - o RSB Generic chain of custody standard (RSB-STD-20-001)
  - o RSB “Identity of product preserved” chain of custody standard (RSB-STD-20-002)
  - o RSB “Segregation of product” chain of custody standard (RSB-STD-20-003)
  - o RSB “Mass balance of product” chain of custody standard (RSB-STD-20-004)
  - o RSB “Content ratio accounting of product” chain of custody standard (RSB-STD-20-005)

#### 1. 2. 3. *Communication and claims*

- Whenever MSW is used to produce a *Biofuel*, the *RSB Standard on communication and claims* (RSB-STD-50-001) applies to any intermediary or final *RSB compliant product* generated from the processing of *Municipal Solid Waste*, after the *Collection Point* onward.

#### 1. 2. 4. *Other applicable standards*

The following standards apply to *Municipal Solid Waste* and to any intermediary or final *RSB compliant product* generated out of the processing of *Municipal Solid Waste*, starting at the *Collection Point*:

- *RSB List of Documents* (RSB-DOC-10-001)
- *RSB Glossary of Terms* (RSB-DOC-10-002)
- *RSB Standard for risk management* (RSB-STD-60-001)
- *RSB Standard for participating operators* (RSB-STD-30-001)

### **Guidance**

It is not necessary for households, commerce and to any other operators generating *Municipal Solid Waste* to demonstrate compliance with the *RSB standards*. Compliance with the *RSB standards* must be demonstrated (through a 3<sup>rd</sup>-party audit process) after the *Collection Point*.

Examples of *Collection Point* include, but are not limited to:

- A private or a municipal landfill
- A Mechanical Biological Treatment (MBT) plant where recyclable and organic elements (BMW), wastewater and refuses are separated from bulk MSW.
- A warehouse or equivalent site where MSW or BMW is aggregated, either formally by or on behalf of municipal authorities or informally by trash and refuse collectors, retailers or wholesalers.

Several techniques exist to measure the *Biogenic Carbon Content* of a product. One of the most widely used is the measurement of Carbon 14, which can be performed in public facilities or by some private laboratories, using the protocols described in norms ASTM 6866 or CEN 15440.

However, the operator may use other techniques to measure the *Biogenic Carbon Content* or use the information published by a third party on the composition of the bulk *Municipal*

*Solid Waste* used. The *Biogenic Carbon Content* may be measured in the *Municipal Solid Waste* or later in the production process (e.g. in the *Biofuel* produced).

A flowchart of the applicability of the RSB system to *Municipal Solid Waste* is available in Annex I.

## 2. Used Cooking Oil

### 2. 1. Definitions

#### 2. 1. 1. *Used Cooking Oil*

*Used Cooking Oil (UCO)* encompasses any type of vegetable and animal oils and fats used for cooking purposes and collected from food processing activities, including but not limited to restaurants, food manufacturers, and industrial deep fryers, etc.

#### 2. 1. 2. *Collection Point*

For the purpose of this policy, the *Collection Point* is defined as the latest step in the value chain where *Used Cooking Oil* is stored/aggregated before being processed/transformed/treated for the purpose of producing biofuel.

#### 2. 1. 3. *Biofuel Producer*

Any *Participating Operator* processing *Used Cooking Oil* and any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Used Cooking Oil* after the *Collection Point* to produce a *Biofuel* is considered a *Biofuel Producer*, as per the scope described in the *RSB Principles & Criteria* (RSB-STD-01-001).

### 2. 2. Procedures

#### 2. 2. 1. *Sustainability Requirements*

- With the exception of Principle 3, Principle 6 and Principle 8, the *RSB Principles & Criteria* (RSB-STD-01-001) and related documents (i.e. guidelines, glossary, guidance and indicators) apply to any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Used Cooking Oil* after of the *Collection Point* onward.
- Principle 3 (Greenhouse Gas calculation) applies to any intermediary or final *RSB compliant product* generated from the processing, transformation or treatment of *Used Cooking Oil* starting at the transportation of UCO from the *Collection Point* onward.
- Principles 6 and 8 do not apply (see also Guidance).

#### 2. 2. 2. *Chain-of-Custody Requirements*

- The following standards apply to *Used Cooking Oil* and to any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Used Cooking Oil* after of the *Collection Point* onward:
  - o RSB Generic chain of custody standard (RSB-STD-20-001)
  - o RSB "Identity of product preserved" chain of custody standard (RSB-

STD-20-002)

- RSB “Segregation of product” chain of custody standard (RSB-STD-20-003)
- RSB “Mass balance of product” chain of custody standard (RSB-STD-20-004)
- RSB “Content ratio accounting of product” chain of custody standard (RSB-STD-20-005)

#### 2. 2. 3. *Communication and claims*

The *RSB Standard on communication and claims* (RSB-STD-50-001) applies without any restriction after the *Collection Point* onward.

#### 2. 2. 4. *Other applicable standards*

The following standards apply to *Used Cooking Oil* and to any intermediary or final *RSB compliant product* generated out of the processing of *Used Cooking Oil* after of the *Collection Point* onward:

- *RSB List of Documents* (RSB-DOC-10-001)
- *RSB Glossary of Terms* (RSB-DOC-10-002)
- *RSB Standard for risk management* (RSB-STD-60-001)
- *RSB Standard for participating operators* (RSB-STD-30-001)

### **Guidance**

It is not necessary for food processors such as catering premises, restaurants, industrial fryers or for any other operators generating *Used Cooking Oil* to demonstrate compliance with the *RSB Standards*. Compliance with the *RSB standards* must be demonstrated (through a 3<sup>rd</sup>-party audit process) after the *Collection Point*.

Examples of *Collection Point* include, but are not limited to:

- A storage facility where a rendering/trading company aggregates UCO before selling it to a *biofuel producer*
- A storage facility where trash and refuse collectors aggregate UCO.

The collection of UCO is followed by pre-treatment (cleaning, filtering, etc.).

If any of these steps is undertaken by an operator that does not ultimately produce biofuels, this operator is considered a *Feedstock Processor*. However, if these steps are undertaken by the same operator that ultimately produces biofuel, this operator is considered a *Biofuel Producer*.

A flowchart of the applicability of the RSB system to *Used Cooking Oil* is available in Annex II.

## **3. Wastewater**

### **3. 1. Definitions**

#### 3. 1. 1. *Wastewater*

For the purpose of this policy, *Wastewater* includes *Domestic wastewater* and *Industrial wastewater*. Definitions 1.1, 1.2 and 1.4 are those provided by the

European Union (91/271/ECC)<sup>2</sup>.

3. 1. 2. *Domestic wastewater*

*Domestic wastewater* means *Wastewater* from residential settlements and services, which originates predominantly from the human metabolism and from household activities.

3. 1. 3. *Industrial wastewater*

*Industrial wastewater* means any *Wastewater* which is discharged from premises used for carrying on any trade or industry, other than *Domestic wastewater* and run-off rain water, and which does not contain any co-product, by-product or residue with market value.

3. 1. 4. *Sludge*

*Sludge* means residual sludge, whether treated or untreated, from *Wastewater* treatment plants

3. 1. 4. *Biofuel Producer*

Any *Participating Operators* processing *Wastewater* and any intermediary or final *RSB compliant product* generated out of the processing, transformation or treatment of *Wastewater* to produce a *Biofuel* is considered a *Biofuel Producer*, as per the scope described in the *RSB Principles & Criteria* (RSB-STD-01-001).

### 3. 2. Procedures

3. 2. 1. *Sustainability Requirements*

- The *RSB Principles & Criteria* (RSB-STD-01-001) and related documents (i.e. guidelines, glossary, guidance and indicators) apply to *Wastewater* and/or to any product generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuels.
- Principles 6 and 8 do not apply (see also Guidance)

3. 2. 2. *Chain-of-Custody Requirements*

The following standards apply to *Wastewater* and/or to any product generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuels:

- RSB Generic chain of custody standard (RSB-STD-20-001)
- RSB “Identity of product preserved” chain of custody standard (RSB-STD-20-002)
- RSB “Segregation of product” chain of custody standard (RSB-STD-20-003)
- RSB “Mass balance of product” chain of custody standard (RSB-STD-20-004)
- RSB “Content ratio accounting of product” chain of custody standard (RSB-STD-20-005)

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<sup>2</sup> Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31991L0271:EN:HTML>

3. 2. 3. *Communication and claims*

The *RSB Standard on communication and claims* (RSB-STD-50-001) applies to any intermediary or final *RSB compliant product* generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuels.

3. 2. 4. *Other applicable standards*

The following standards apply to *Wastewater* and/or to any product generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuels:

- *RSB List of Documents* (RSB-DOC-10-001)
- *RSB Glossary of Terms* (RSB-DOC-10-002)
- *RSB Standard for risk management* (RSB-STD-60-001)
- *RSB Standard for participating operators* (RSB-STD-30-001)

**Guidance**

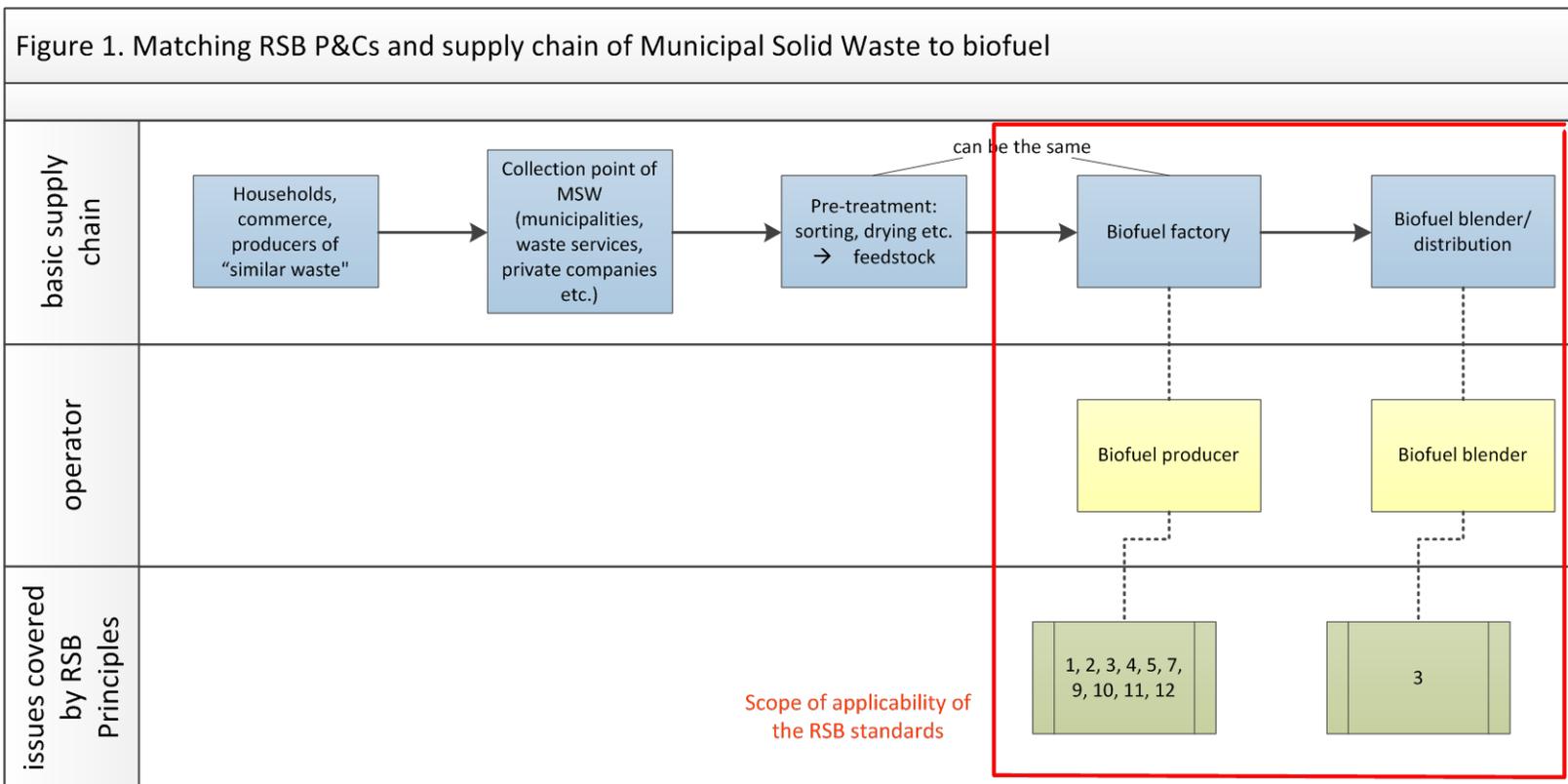
It is not necessary for households, commerce or for any other operators generating *Wastewater* to demonstrate compliance with the *RSB standards*. Compliance with the *RSB standards* must be demonstrated (through a 3<sup>rd</sup>-party audit process) as soon as *Wastewater* and/or any product generated from the processing, transformation or treatment of *Wastewater* start being treated or processed for the purpose of producing biofuels.

Examples of *Wastewater* and product generated from the processing, transformation or treatment of *Wastewater* for the purpose of producing biofuels include, but are not limited to:

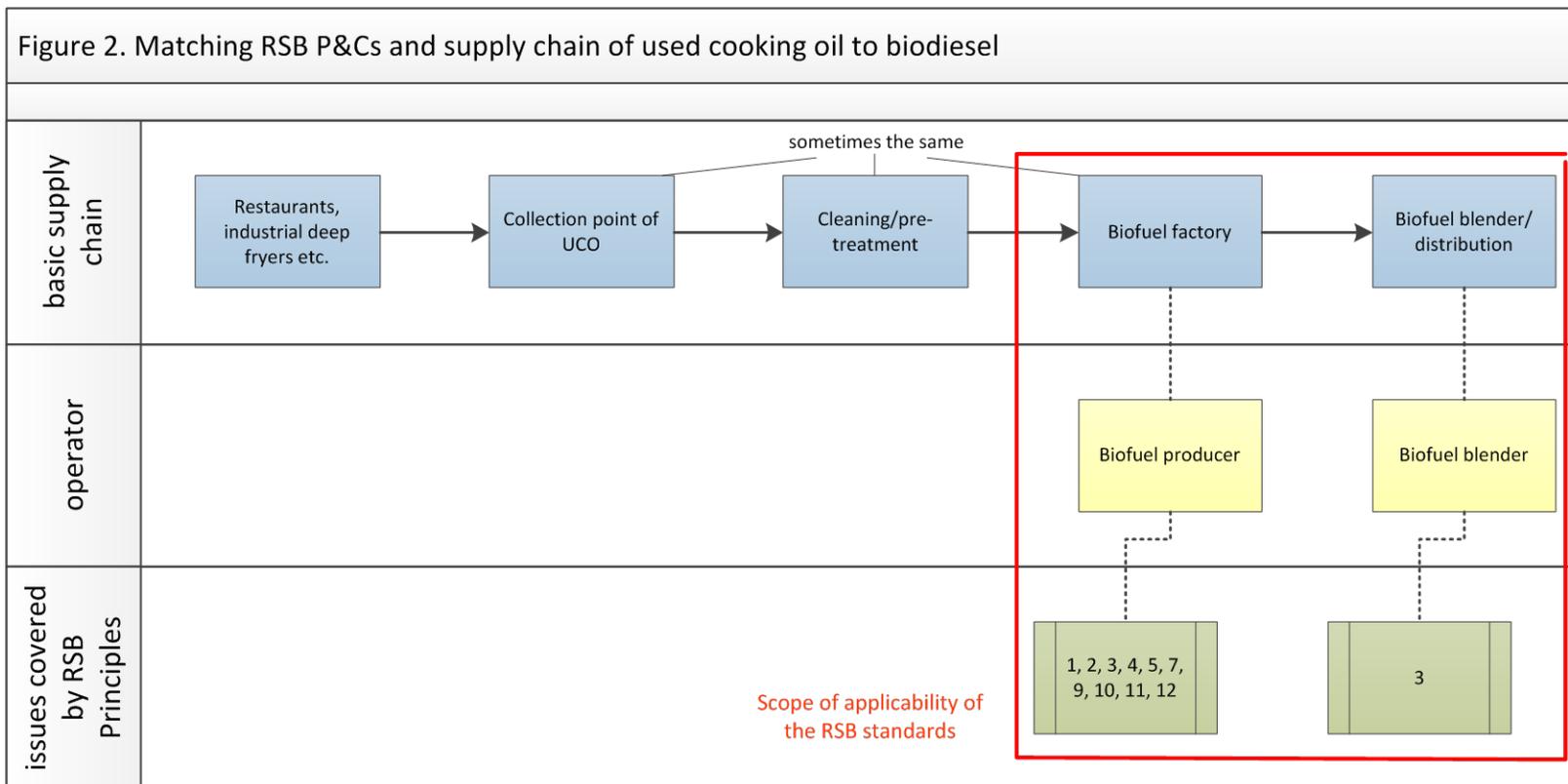
- Starchy *Wastewater*, e.g., from grain milling operations
- Effluents from industrial premises, which do not contain any co-product, by-product or residue with market value (e.g. Palm Fatty Acid Distillates)
- Primary or secondary *Sludge* collected out of a *Wastewater* treatment plant
- Greases or fats collected out of a *Wastewater* treatment plant

A flowchart of the applicability of the RSB system to *Wastewater* is available in Annex III.

ANNEX I – Applicability of the RSB system to Municipal Solid Waste



ANNEX II – Applicability of the RSB system to Used Cooking Oil



ANNEX III – Applicability of the RSB system to Wastewater

