

RSB Principles & Criteria for Sustainable Biofuel Production

Country/ Organization	Roundtable on Sustainable Biofuels (RSB)	Year and status	Version 2.0 (2010); in operation
Initiative	RSB Principles & Criteria for Sustainable Biofuel Production		
Membership	Farmers and growers of biofuel feedstocks; industrial biofuel producers; retailers/blenders & the transportation industry; banks/investors; rights-based NGOs; rural development and food security organizations; environment and conservation organizations; climate change and policy organizations; trade unions; smallholder farmer organizations and indigenous peoples' organizations/community-based civil society organizations; intergovernmental organizations (IGOs); governments; standard-setters; specialist advisory agencies; certification agencies; and consultant experts		
Governing bodies	Steering Board; Chambers; Secretariat; and Expert Groups		
Type and implementation approach	Meta-standard; certification scheme	Geographical coverage	Global
Feedstock(s) covered	All	Supply chain coverage	Biofuel feedstock production, processing and bioethanol transportation/distribution
Type(s) of biofuels covered	Liquid biofuels		
Link	http://rsb.epfl.ch/page-24929-en.html		

Overview¹.

The Roundtable on Sustainable Biofuels is an international, multistakeholder initiative that was established in 2006 to achieve global consensus around a set of principles and criteria for sustainable liquid biofuel feedstock production, processing and biofuel transportation/distribution.

A first draft of the RSB principles for sustainable biofuel production was published in 2007. Interested stakeholders were invited to join a Working Group to revise the principles and to suggest criteria for achieving them. Following a stakeholder consultation process, the RSB released 'Version Zero' of the draft Principles & Criteria for Sustainable Biofuels in August 2008. After further consultations with stakeholders and a number of draft revisions, in November 2009 the first full version of the standard was approved for pilot testing. After several months of field testing in pilot projects, followed by a two-month consultation period, the RSB Steering Board validated Version 2.0 of the RSB Standard. The RSB Standard has now become a fully operational biofuel certification standard, which includes Principles &

¹ The information included in this section was excerpted and adapted directly from the RSB web-site: <http://rsb.epfl.ch/>

Criteria and an associated guidance document, detailed compliance indicators, and the glossary of terms.

The RSB Standard is built around the following twelve principles:

1. Legality;
2. Planning, Monitoring and Continuous Improvement;
3. Greenhouse Gas Emissions;
4. Human and Labour Rights;
5. Rural and Social Development;
6. Local Food Security;
7. Conservation;
8. Soil;
9. Water;
10. Air;
11. Use of Technology, Inputs, and Management of Waste; and
12. Land Rights.

The criteria included in Version Two of the RSB Standard address only the direct activities that farmers and producers can undertake to prevent unintended consequences from biofuel production.

The Standard identifies four types of operators subject to different sustainability requirements within it. These include ‘feedstock producers’, ‘feedstock processors’, ‘biofuel producers’ and ‘blenders’. Throughout the standard the requirements that apply to each of the operators listed above are identified.

For citation:

Ismail, M., Rossi, A., Geiger, N. 2011. *A Compilation of Bioenergy Sustainability Initiatives: Update*. Rome: Food and Agriculture Organization of the UN (FAO).

The authors would like to thank Onyekachi Nwankwo (Volunteer) for his valuable contribution.

TABLE OF CONTENTS²

1. ENVIRONMENTAL	4
1.1 Land-use changes (both direct and indirect)	
1.2 Biodiversity and ecosystem services.....	4
1.3 Productive capacity of land.....	19
1.4 Crop management and agrochemical use.....	22
1.5 Water availability and quality	24
1.6 GHG emissions	32
1.7 Air quality.....	38
1.8 Waste management	41
1.9 Environmental sustainability (cross-cutting)	44
2. SOCIO-ECONOMIC.....	52
2.1 Land tenure/access and displacement	52
2.2 Rural and social development.....	54
2.3 Access to water and other natural resources	58
2.4 Employment, wages and labor conditions	61
2.5 Human health and safety	70
2.6 Energy security and access	
2.7 Good management practices and continuous improvement	74
2.8 Social sustainability (cross-cutting)	
3. GOVERNANCE	75
3.1 Compliance.....	75
3.2 Participation and transparency.....	78
4. FOOD SECURITY	87
4.1 Food availability	
4.2 Food access	
4.3 Food utilization	
4.4 Food stability	
4.5 Food security (cross-cutting).....	87

² Please note that due to the lack of cross-references (see footnote 3) in the table that we prepared for this initiative, the aspects/issues not included in it (e.g. those without hyperlink and page number in the table of content) should not be considered as not covered under RSB.

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
1. ENVIRONMENTAL			
<p>1.2 Biodiversity and ecosystem services</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas.</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> <i>The aim of this principle is to promote the use of areas with the lowest possible risk of impacts to people and the environment i.e. those that are considered “degraded”, “abandoned” or “marginal”. Over the long term biofuel operators should maintain ecosystems through sustainable management practices without converting them.</i> <i>If conservation values (e.g. biodiversity ecosystem services or cultural importance) are found on a potential area for biofuel production, these have to</i> 	<p>7.a Conservation values of local, regional or global importance within the potential or existing area of operation shall be maintained or enhanced.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>7.a.1 Minimum requirements</u></p> <ul style="list-style-type: none"> Participating Operators shall evaluate the conservation value(s) of a potential or existing operation area following a land-use impact assessment, as detailed in the guidance. Conversion or use of new areas for biofuel operations shall not occur prior to the screening exercise. Where conservation values of local, regional or global importance have been identified, Participating Operators shall carry out a specialized impact assessment in accordance with the Conservation Impact Assessment Guidelines (RSB-GUI-01-007-01). Biofuel operations shall prioritize areas with the lowest possible risk of impacts to the identified conservation values. 	<p>7.a.i.1. The participating operator provides objective evidence demonstrating that they have identified conservation values of global, regional or local importance affected by the potential or existing biomass/biofuels operation(s) of the participating operator by following the screening exercise (RSB-GUI-01-002-02) of the RSB impact assessment process.</p> <p>7.a.i.2. The objective evidence provided by the participating operator on the identification of conservation values as per the screening exercise (RSB-GUI-01-002-02) includes:</p> <ul style="list-style-type: none"> Maps and databases used for the first steps of the assessment. Evidence of consultation (e.g. meeting records) with relevant national/regional experts and institutions to identify conservation values of global, regional or local importance. Evidence of consultation with local stakeholders to conservation values of global, regional or local importance. For new projects, site level mapping, including

³ Cross-references (through hyperlinks) were not included in this table due to the comprehensive (and in some cases cross-cutting) nature of most RSB criteria and indicators and to the numerous interrelationships among them.

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><i>be maintained by the operator.</i></p> <ul style="list-style-type: none"> <i>Impacts on ecosystems also include any decrease in connectivity between the various ecosystems surrounding the area of production.</i> 	<ul style="list-style-type: none"> • Areas identified as “no-go areas” shall not be used for biofuel operations after the 1st of January 2009, unless feedstock production or processing operations are legally authorised as part of the conservation management for the area concerned. • Areas that contain identified conservation values of global, regional or local importance or that serve to maintain or enhance such conservation values shall not be converted after the 1st of January 2009, or earlier as prescribed by other relevant international standards. • Areas that contain identified conservation values of global, regional or local importance or that serve to maintain or enhance such conservation values shall only be used if adequate management practices maintain or enhance the identified conversation values (e.g. sustainable biomass harvesting). • Hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species shall not occur on the operation site. <p><u>Guidance on Criterion 7.a</u></p> <ul style="list-style-type: none"> • <i>Ecosystems host ecological communities, and support numerous species by providing habitat, mating areas and subsistence for example, essential ecological processes and</i> 	<p>delineation of areas to be planted and areas to be set aside for conservation values of global, regional or local importance.</p> <ul style="list-style-type: none"> • For existing projects, site level mapping, including delineation of areas to be maintained or restored for conservation values of global, regional or local importance. • Comprehensive description of conservation values of global, regional or local importance related to the area. • Comprehensive description of the possible impacts of the biomass/biofuels operation(s) on conservation values of global, regional or local importance. • Comprehensive description of the possible risks resulting from the biomass/biofuels operation(s) to conservation values of global, regional or local importance. • Comprehensive description of the precautionary measures and practices identified and implemented to ensure that the conservation values of global, regional or local importance relating to and/or affected by the potential or existing biomass/biofuels operation(s) of the participating operator (i.e. including consideration of the wider landscape context) are maintained or enhanced. <p>7.a.i.3. The participating operator provides objective</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>ecosystem services. These are collectively referred to as conservation values and are important to maintain in order to ensure long-term ecological sustainability. Some potential production areas contain conservation values of local, regional or global importance and require special protection and management in order to maintain these values.</i></p> <p><i>The notion of conservation values of local, regional or global importance is largely inspired by the concept of “High Conservation Values (HCV)”, as developed by the HCV Network¹. Following the definitions provided by the HCV Network, conservation values of local, regional or global importance include, but are not limited to:</i></p> <ol style="list-style-type: none"> <i>1. The presence of rare, threatened or protected species, including any species included in IUCN red list under the categories “vulnerable”, “endangered” and “critically endangered”.</i> <i>2. Pristine ecosystems</i> <i>3. The presence of viable populations of natural species in natural pattern of distribution and abundance, i.e. natural ecosystems, with a limited influence from human activities.</i> <i>4. An important stock of Carbon under solid, liquid or gaseous forms, such as, but not</i> 	<p>evidence demonstrating that the methodology used to identify conservation values follows the RSB Screening Exercise (RSB-GUI-01-002-02) or provides equivalent results.</p> <p>7.a.i.4. The participating operator provides objective evidence demonstrating that no area with conservation values of global, regional or local importance has been converted for biofuels production after 1 January 2009, or earlier as prescribed by other international standards.</p> <p>7.a.i.5. The participating operator provides objective evidence demonstrating that the proposed or existing biomass/biofuels operation(s) can be/are managed in ways which maintain or enhance any conservation values of global, regional or local importance identified during the screening exercise.</p> <p>7.a.i.6. The participating operator provides objective evidence demonstrating that precautionary measures and implemented practices have been effective in maintaining or enhancing conservation values of global, regional or local importance.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>limited to, peatlands and primary forests.</i></p> <p>5. <i>An outstanding biodiversity level, as per the definition provided in the glossary.</i></p> <p>6. <i>Important ecosystem services, i.e. those local, regional or global services received by human populations from ecosystems (see criterion 7b and glossary), with an importance for their survival, subsistence and livelihood.</i></p> <p>7. <i>Critical resources for local population's subsistence, health and livelihood.</i></p> <p>8. <i>Cultural importance from a local, regional or global perspective.</i></p> <ul style="list-style-type: none"> • <i>This criterion shall be used to identify the most suitable area for biofuel production and to ensure the maintenance of existing conservation values and ecosystem services of this area, through a land-use impact assessment.</i> • <i>The screening exercise allows the operator to identify whether some conservation values exist on the area of operations (both for new and existing projects).</i> • <i>If some conservation values exist, or if the operator is unable to determine whether or not they exist, a complete land use impact assessment will be triggered to precisely identify the nature of the conservation value(s) in the area of operations and the impact of operations on these conservation values.</i> 	<p>Guidance for 7.a.i.6: The mitigation measures to be covered in the ESMP include but are not limited to sustainable harvesting of the biomass existing on the site (e.g. thinning, mowing), protection measures for biodiversity values, the creation of conservation set side zones, buffer zones, multiple use zones, controls on access and product removals, and specifically the ban on hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species.</p> <p>7.a.i.7. The participating operator provides objective evidence demonstrating that the results of the RSB Screening Exercise (RSB-GUI-01-002-02) and related precautionary measures have been effective in giving preference to operating in areas which pose the lowest risk to conservation values of global, regional or local importance.</p> <p>7.a.i.8. The participating operator provides objective evidence demonstrating that a written summary listing of the conservation values of global, regional or local importance identified through the RSB Screening Exercise (RSB-GUI-01-002-02) is publicly available.</p> <p>7.a.i.9.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<ul style="list-style-type: none"> • <i>The land-use impact assessment is a top-down combination of desk and field work, in consultation with local experts and communities, and takes both conservation and economic aspects into consideration. The land-use impact assessment shall include at least:</i> <ol style="list-style-type: none"> 1) <i>screening, i.e. review of publicly available data and maps (non small-scale operators only),</i> 2) <i>landscape-level assessment, i.e. the consultation of national/regional experts and institutions,</i> 3) <i>site-level mapping, i.e. a detailed site-level assessment and planning through the consultation of local communities, and</i> 4) <i>responsible management, i.e. the implementation of responsible land management practices (e.g. conservation agriculture).</i> • <i>For existing projects, the operator should demonstrate that these or equivalent steps were followed prior to the implementation of operations.</i> • <i>The land-use impact assessment allows determining “no go” areas, i.e. those areas which shall in no case be used for biofuel production. In some specific cases, a limited use of this area for agriculture, forestry or other operations might be authorized as part</i> 	<p>The participating operator provides objective evidence demonstrating that none of her/his/its biomass/biofuel operation(s) have taken place or are planned within legally protected areas, UNESCO World Heritage sites, Ramsar sites, IUCN Protected Areas Types 1 & 2, Alliance for Zero Extinction sites, or any legally protected areas, after 1 January 2009 unless there is documented evidence that biomass/biofuels production or processing operation(s) are legally authorized as part of the conservation management for the area concerned.</p> <p>7.a.i.10. The participating operator provides objective evidence demonstrating that no hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species is ongoing on her/his/its biomass/biofuels operation(s).</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>of a legal conservation management plan.</i></p> <ul style="list-style-type: none"> • <i>The possibility to use higher risk areas may only be explored when no areas with a lesser risk of impact to the environment or people are available and under specific conditions that allow the conservation values of the production area to be maintained (e.g through sustainable biomass harvesting).</i> • <i>Land conversion cannot lead to the loss of conservation values.</i> • <i>Earlier cut-off dates established for mainstream feedstock sustainability standards and/or national or regional legislation (e.g. US Renewable Fuel Standard or EU Renewable Energy Directive) include but are not limited to: Forest Stewardship Council for wood products (November 1994), Roundtable for Responsible Soy (to be decided), and the Roundtable on Sustainable Palm Oil (November 2005).</i> <p>[Also relevant to aspect(s)/issue(s): 1.1 Land-use changes (both direct and indirect); 1.9 Environmental sustainability (cross-cutting); 2.5 Human health and safety; 2.8 Social sustainability (cross-cutting); 3.2 Participation and transparency; and 4.2 Food access.]</p>	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>7.b Ecosystem functions and services that are directly affected by biofuel operations shall be maintained.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • In accordance with the results of the impact assessment process, Participating Operators shall implement practices through the Environmental and Social Management Plan (ESMP) that maintain ecosystem functions and services both inside and outside the operational site, which are directly affected by biofuel operations. <p><u>Guidance on Criterion 7.b</u></p> <ul style="list-style-type: none"> • <i>The definition of ecosystem services and functions can be found in the glossary.</i> • <i>This criterion aims at identifying important ecosystem services and functions in the area of production and the surrounding areas as identified in criterion 7a.</i> • <i>Specific ecosystem functions and services relevant to an area of production have to be locally identified by operators as part of the land-use impact assessment. Ecosystem functions may include, but are not limited to, the following: the maintenance of natural</i> 	<p>7.b.i.1. The participating operator provides objective evidence demonstrating that ecosystem functions and services that are directly affected by her/his/its biomass/biofuels operation(s) were identified during the screening exercise.</p> <p>7.b.i.2. If evidence exists that the operation will directly affect ecosystem functions and services, the participating operator provides objective evidence demonstrating that management of her/his/its biomass/biofuels operation(s) effectively maintains or enhances the ecosystem functions and services identified both inside, and outside the site(s) of the biomass/biofuels operation(s).</p> <p>Guidance: The management practices in the ESMP may include:</p> <p>For ecosystem functions: the creation or maintenance and protection of areas where natural regeneration processes are allowed to take place, and where populations of native plants and animals can breed, feed and find refuge.</p> <p>For Ecosystem services:</p> <ul style="list-style-type: none"> • Actions to control and minimize disturbance to water quality and water flows e.g. the creation or protection of riparian buffer zones of natural

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p>7. Conservation Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>regeneration and succession processes within and around the farm area and the maintenance of genetic, species and ecosystem diversity within and around the farm area. The ecosystem services considered may include, but are not limited to, the following: water quality and quantity regulation; soil protection, especially with reference to erosion control; protection from fire and wind; and maintenance of a supply of natural goods (e.g. non-timber forest products) to local populations who have identified such goods as important to their livelihood.</i></p> <ul style="list-style-type: none"> • <i>Through an appropriate management plan and sustainable practices, the operator monitors these ecosystem services and functions and ensure they are maintained.</i> <p>Reference documents to be used for Criterion 7.b Millennium Ecosystem Assessment – Ecosystems and Human Well Being</p> <p>[Also relevant to aspect(s)/issue(s): 1.3 Productive capacity of land; 1.5 Water availability and quality; 2.8 Social sustainability (cross-cutting); and 4.2 Food access.]</p>	<p>vegetation, and the maintenance of natural vegetation in important water catchments, especially steep slopes.</p> <ul style="list-style-type: none"> • Actions to control and minimize soil disturbance, erosion and compaction including the avoidance of land clearance on sensitive or highly erodible soils, especially on steep slopes, and positive soil restoration measures where appropriate. • Actions to minimize the risk of fire and the effects of wind erosion e.g. maintenance of appropriate natural barriers. • Protection and maintenance of areas of natural vegetation where local populations can maintain a sustainable harvest of those natural goods (e.g. NTFPs) which have been identified as important to their livelihoods. <p>7.b.i.3. The participating operator provides objective evidence demonstrating that continuous monitoring and measures implemented through their ESMP to maintain and enhance ecosystem functions and services are effective.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>7.c Biofuel operations shall protect, restore or create buffer zones.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Buffer Zones shall be protected, restored or created to avoid negative impacts from biofuel operations on areas that are contiguous to the operation site. • In accordance with the results of the impact assessment process, within the operational site, buffer zones shall be protected, restored or created to avoid negative impacts from the biofuel operations on areas that contain conservation value(s) of local, regional or global importance. <p><u>Guidance on Criterion 7.c</u></p> <ul style="list-style-type: none"> • <i>The definition of buffer zones can be found in the Glossary of Terms (RSB-DOC-01-001).</i> • <i>This principle refers both to the protection or the creation of buffer zones within and outside the production site to minimize impacts from biofuel operations on the surrounding areas or sensitive areas located within the production site itself.</i> • <i>Buffer zones are crucial to ensure that no</i> 	<p>7.c.i.1. The participating operator provides objective evidence demonstrating that buffer zones are protected, restored or created within the site(s) of her/his/its biomass/biofuels operation(s) around areas with conservation values of local, regional or global importance.</p> <p>7.c.i.2. The participating operator provides objective evidence demonstrating that buffer zones are effective in mitigating potential negative impacts of the biofuel/biomass operations on areas that are contiguous to the operation site and, within the operation site, on any area containing conservation value(s) of local, regional or global importance.</p> <p>7.c.i.3. The participating operator provides objective evidence demonstrating that buffer zones remain unused for her/his/its biomass/biofuels operation(s).</p> <p>Guidance: Buffer Zones may be managed in order to contribute to the sustained supply of environmental goods and services, in line with their protective function.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p>7. Conservation Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>impacts emerging from the production site reach the surrounding areas or water courses/tables located on the production site.</i></p> <ul style="list-style-type: none"> • <i>Buffer zones may already exist between the production area and the surrounding areas (e.g. roads, idle lands, natural transition zones). These shall be maintained and sustainably managed.</i> • <i>Unless buffer zones already exist between the production site and the surrounding areas, the operator should create these buffer zones to prevent negative impacts on these surrounding ecosystems (e.g. runoffs). For example, the operator may leave a strip of her/his land under fallow at the hedge of the operation site. This strip will act as buffer between the operation site and the surrounding areas.</i> • <i>The size, layout and quality features of the buffer zones to be created should be adapted to the type of areas they separate and the practices implemented on the production site on a case-by-case basis. If no national guidelines exist for the size and features of buffer zones, operators may use international guidelines, such as those of the FAO.</i> <p><u>Reference documents to be used for Criterion 7.c</u></p> <ul style="list-style-type: none"> • <i>FAO Code of Practice for Forest Harvesting in Asia-Pacific (Section 5)</i> 	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on</p>	<p>[Also relevant to aspect(s)/issue(s): 1.5 Water availability and quality.]</p>	
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p>biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>7.d Ecological corridors shall be protected, restored or created to minimize fragmentation of habitats.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>7.d.1 Minimum requirements</u></p> <ul style="list-style-type: none"> Existing ecological corridors within the operational production site shall be set-aside and protected with appropriate surrounding buffer zones. Whenever the production site impairs the connectivity between surrounding ecosystems, ecological corridors shall be created by the operator. <p><u>7.d.2 Progress requirements (non-small scale operators only)</u></p> <ul style="list-style-type: none"> New ecological corridors shall be created within the production site if it is surrounded by areas containing wildlife. Any ecological corridor destroyed between the 1st of January 2004 and the 31st December 2009 on or near the production site and for which the Operator is directly accountable 	<p>7.d.i.1. The participating operator provides objective evidence demonstrating that ecological corridors within the production site(s) of her/his/its biomass/biofuels operation(s) have been identified.</p> <p>7.d.i.2. The participating operator provides objective evidence demonstrating that existing ecological corridors within the production site(s) of her/his/its biomass/biofuels operation(s) are set-aside and protected with appropriate buffer zones.</p> <p>7.d.i.3. The participating operator provides objective evidence demonstrating that, where there is the risk that biomass/biofuels operation(s) could increase the fragmentation of surrounding ecosystems, the spatial layout of the biomass/biofuels operation(s) is adjusted to not cause any additional fragmentation and to maintain connectivity of ecosystems through the creation of ecological corridors within her/his/its biomass/biofuels operation(s).</p> <p>Progress requirements (Non small-scale</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p>7. Conservation Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>shall be restored.</p> <p><u>Guidance on Criterion 7.d</u></p> <ul style="list-style-type: none"> • <i>The definition of ecological corridors can be found in the Glossary of Terms (RSB-DOC-01-001).</i> • <i>Ecological corridors are crucial to ensure that wildlife circulate between different habitats without obstacles, as a key requirement for their survival and genetic diversity.</i> • <i>In some countries (e.g. Brazil), official maps of ecological corridors exist and should be consulted. If not the case, the four-step land-use planning process (see 7a) should allow the operator to identify any potential ecological corridor on and around the production site.</i> • <i>When ecological corridors exist on the production site they cannot not be destroyed. A buffer zone shall be created between the production area and the corridor in order to avoid any disturbance for wildlife using it.</i> • <i>As a progress requirement, the operator has to create ecological corridors on the production site whenever evidence shows that this could increase the connectivity between the habitats which surround the production site.</i> • <i>The size, layout and quality features of the corridors are adapted to the species and other environmental features they are aimed to promote and conserve.</i> 	<p>Operators only)</p> <p>7.d.i.4. The participating operator provides objective evidence demonstrating that specific measures are implemented to establish ecological corridors that facilitate the movement of wildlife in areas surrounding the site(s) of her/his/its biomass/biofuels operation(s).</p> <p>7.d.i.5. The participating operator provides objective evidence demonstrating that ecological corridors, which were destroyed between the 1st of January 2004 and the 31st December 2008, and for which the participating operator is directly accountable, have been restored effectively.</p> <p>7.d.i.6. The participating operator provides objective evidence demonstrating that ecological corridor(s) are effective in protecting, maintaining and/or enhancing the environmental aspect for which they were established.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>7.e Biofuel production shall prevent invasive species from invading areas outside the operation site.</p> <p><u>Operators who must comply:</u> Feedstock Producer and Feedstock Processor.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Participating Operators shall not use any species officially prohibited in the country of operation. • Whenever the species of interest is not prohibited in the country of operation, Participating Operators shall seek adequate information about the invasiveness of the species to be used for feedstock production, e.g. in the Global Invasive Species Database (GISD). • If the species is recorded as highly invasive under similar conditions (similar climate, and similar local ecosystems, and similar soil types), this species shall not be used. • If the species has not been recorded as representing a high risk of invasiveness under similar conditions (climate, local ecosystems, soil type), Participating Operators shall follow the specific steps: <ol style="list-style-type: none"> 1) During the feedstock selection and development, Participating Operators shall conduct a Weed Risk Assessment (WRA) 	<p>7.e.i.1. The participating operator provides objective evidence demonstrating that no species which is officially prohibited at national or regional level because of high risk for invasion or which has been analyzed or recorded (e.g. in the Global Invasive Species Database) as highly invasive under similar conditions (climate, local ecosystems, soil types, etc.) are used by the biomass/biofuels operation(s) of the participating operator.</p> <p>7.e.i.2. The participating operator provides objective evidence demonstrating that a Weed Risk Assessment has been undertaken analyzing each species cultivated, used, or otherwise handled in the biomass/biofuels operation(s) of the participating operator, the risk of invasion.</p> <p>7.e.i.3. The participating operator provides objective evidence demonstrating that the species used in her/his/its biomass/biofuels operation(s) have no or low risk of invasion in similar conditions (climate, local ecosystems, soil type, etc.).</p> <p>7.e.i.4. If no evidence exists demonstrating that the species used in biomass/biofuels operations have</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p>to identify the potential threat of invasion. If the species is deemed highly invasive after the Weed Risk Assessment, this species shall not be used.</p> <p>2) During the potential importation of crops, Participating Operators shall comply with all related national regulations, including the gain of an official approval or a suitable import certificate.</p> <p>3) During feedstock production, Participating Operators shall set up a management plan, which includes cultivation practices that minimize the risks of invasion, immediate mitigation actions (eradication, containment or management) in case of escape of a plant species outside the operation site (possibly through the provision of a specific fund), as well as a monitoring system that checks for escapes and the presence of pests and pathogens outside the operation site.</p> <p><u>Guidance on Criterion 7.e</u></p> <ul style="list-style-type: none"> • <i>Alien invasive species can become highly problematic as they rapidly spread over the ecosystem and unfairly compete with local species, which are then threatened with disappearance. For this reason, it is not acceptable to use a crop with a significant risk of invasiveness in the region of production.</i> • <i>In the case a species is prohibited because of</i> 	<p>no or low risk of invasion in similar conditions, the participating operator provides objective evidence demonstrating implementation of the IUCN Guidelines on Biofuels and Invasive Species or any applicable government approved guidelines that exist in the country or region of her/his/its biomass/biofuels operation(s).</p> <p>7.e.i.5. The participating operator provides objective evidence demonstrating that specific measures are implemented which prevent and mitigate the risk of invasion during cultivation, harvesting, processing, transport and trade.</p> <p>7.e.i.6. The participating operator provides objective evidence demonstrating that continuous monitoring is undertaken to detect any invasion outside the operation site, of species cultivated, used or otherwise handled by the biomass/biofuels operation(s).</p> <p>7.e.i.7. The participating operator provides objective evidence demonstrating that in the case of invasion, the participating operator has implemented corrective measures (e.g. eradication, containment or management).</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p>	<p><u>7. Conservation</u> Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and conservation value areas. (continued)</p>	<p><i>its invasiveness, if it has been recorded as highly invasive under similar climate, ecosystem types and soil conditions (e.g. in the Global Invasive Species Database), or if the Weed Risk Assessment identifies a high risk of invasiveness for this species, the operator is not allowed to use this crop.</i></p> <ul style="list-style-type: none"> • <i>The operator is required to implement the IUCN Guidelines on Biofuels and Invasive Species or any equivalent national guideline that exists in the country of operation.</i> • <i>When importing a crop, Participating Operators have to comply with all related national regulations of the importing country, including the gain of an official approval or a suitable import certificate.</i> • <i>Feedstock processors are specifically responsible for ensuring mitigation and monitoring measures are implemented during the transport of feedstock to the processing unit.</i> <p><u>Reference documents to be used</u></p> <ul style="list-style-type: none"> • IUCN Guidelines on biofuels and invasive species – draft • Global Invasive Species Database (GISD) • Invasive Species Assessment Protocol • Pest Risk Analysis developed by the EPPO • Australian Weed Risk Assessment process 	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
1.2 Biodiversity and ecosystem services (continued)		<ul style="list-style-type: none"> • Weed Risk Assessment for Hawaii and Pacific Islands Process <p>[Also relevant to aspect(s)/issue(s): 3.1 Compliance].</p>	
1.3 Productive capacity of land Back to table of contents	<p>8. Soil Biofuel operations shall implement practices that seek to reverse soil degradation and/or maintain soil health.</p> <p><u>General guidance</u></p> <ul style="list-style-type: none"> • <i>The baseline condition of the production site's soil will be determined during the impact assessment process and Soil Impact Assessment (RSB-GUI-01-008-01) described under Principle 2.</i> 	<p>8.a Operators shall implement practices to maintain or enhance soil physical, chemical, and biological conditions.</p> <p><u>Operators who must comply:</u> Feedstock Producers</p> <p>8.a.1 Minimum requirements Soil erosion shall be minimized through the design of the feedstock production site and use of sustainable practices in order to enhance soil physical health on a watershed scale.</p> <ul style="list-style-type: none"> • The use of agrarian and forestry residual products for feedstock production, including lignocellulosic material, shall not be at the expense of long-term soil stability and organic matter content. • Where the screening exercise has triggered the need for a Soil Impact Assessment (RSB-GUI-01-008-01), Participating Operators shall: <ol style="list-style-type: none"> a) Develop a soil management plan as part of the Environmental and Social Management Plan (ESMP). b) Perform periodic sampling of soil on the feedstock production site to evaluate the 	<p>8.a.i.1. The participating operator provides objective evidence demonstrating that soil erosion is minimized through the design of feedstock production and through the use of specific management practices (e.g. crop rotation, direct planting, maintaining vegetative ground cover, terracing, maintaining or creating tree hedges, etc.).</p> <p>8.a.i.2. The participating operator provides objective evidence demonstrating an understanding of the soil erosion issues and organic matter content in the biomass/biofuels production area of the operation(s), and the impacts of biomass/biofuels production on the maintenance or enhancement of soil properties.</p> <p>8.a.i.3. The participating operator provides objective evidence demonstrating implementation of practices to reduce or avoid soil erosion and compaction, and to maintain or improve soil organic matter.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.3 Productive capacity of land (continued)</p> <p>Back to table of contents</p>	<p>8. <u>Soil</u> Biofuel operations shall implement practices that seek to reverse soil degradation and/or maintain soil health. (continued)</p>	<p>effect of the soil management plan on the organic matter content. Where the practices included in the soil management plan are not seen during monitoring to maintain soil organic matter at the optimal level, alternative practices shall be investigated.</p> <p><u>8.a.2 Progress requirements</u></p> <ul style="list-style-type: none"> • Participating Operators shall implement measures to improve soil health, such as Conservation Agriculture practices as defined by the FAO including: <ol style="list-style-type: none"> a) Organic direct planting b) Permanent soil cover c) Crop rotation, or d) Fallow areas with natural or planted vegetation in order to recover natural fertility and interrupt pest life cycles <p><u>Guidance of Criterion 8.a</u></p> <ul style="list-style-type: none"> • <i>Impacts on soil should be assessed through the Soil Impact Assessment (RSB-GUI-01-008-01).</i> • <i>The optimal level of organic matter should be assessed through the Soil Impact Assessment (RSB-GUI-01-008-01).</i> • <i>The soil management plan (not applicable to small-scale producers) shall include practices that seek to maintain the level of organic matter deemed optimal to the local system for sustained productivity and ecological services.</i> 	<p>8.a.i.4. The participating operator provides objective evidence demonstrating that the use of agricultural and/or forestry residual material for feedstock production, including lignocellulosic material, have and/or is not affecting the long-term soil stability and organic matter content of the soils in the biomass/biofuels operation(s) of the participating operator.</p> <p>8.a.i.5. The participating operator provides objective evidence demonstrating that within three years of certification, measures to improve soil health, such as Conservation Agriculture practices as defined by the FAO, are implemented, including organic direct planting, permanent soil cover, crop rotation and set aside areas with natural or planted vegetation in order to recover natural fertility and interrupt pest life cycles.</p> <p><u>The following indicators are applicable only if the RSB screening exercise has triggered the need for a Soil ImpactAssessment (RSB-GUI-01-008-01):</u></p> <p>8.a.i.6. The participating operator provides objective evidence demonstrating that a comprehensive Soil Management Plan is in place and implemented as</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.3 Productive capacity of land (continued)</p> <p>Back to table of contents</p>	<p>8. <u>Soil</u> Biofuel operations shall implement practices that seek to reverse soil degradation and/or maintain soil health. (continued)</p>	<ul style="list-style-type: none"> • <i>Consultation with local experts may be useful to establish the optimal level of soil organic matter, taking into account crop specificities as well as local economic, climatic, geologic and ecologic conditions.</i> • <i>Realistic targets should be described in the ESMP and set in accordance with the producers' capacities, the context of production, the feedstock in use and on a reasonable timeline.</i> • <i>Follow-up indicators shall focus on the implementation of good practices, unless the operator is able to undertake periodic sampling, which allow determining whether the objectives are fulfilled.</i> • <i>The mentioned practices are examples intended to serve as guidance. However, the operator may demonstrate that the requirements are fulfilled through the implementation of practices of their choice.</i> • <i>Sustainable practices that minimize soil erosion include crop rotation, direct planting (no-till), maintaining vegetative ground cover, terracing, and maintaining or creating tree hedges.</i> • <i>This criterion applies to the production site's soils and any soil outside the production site which is directly impacted by the production (e.g. through runoff).</i> 	<p>part of the ESMP.]</p> <p>8.a.i.7. The participating operator provides objective evidence demonstrating that the Soil Management Plan is based on continuous monitoring (e.g. at minimum once per season and once per crop rotation, etc.) of physical, chemical and biological properties of the soils and other related factors (e.g. rainfall, water availability, run-off and other conditions, climatic conditions, size and layout of the production area, etc.) in and around the biomass/biofuels production area of the operation(s) of the participating operator, as collected through the impact assessment studies or other equivalent source.</p> <p>8.a.i.8. Where the Soil Impact Assessment demonstrated that the soil conditions were already optimal, the participating operator provides objective evidence demonstrating that implementation of Soil Management Plan effectively prevents (and if necessary mitigates) alteration of physical, chemical and/or biological soil properties including soil organic matter. Where the Soil Impact Assessment demonstrated that the soil conditions were below optimal, the participating operator provides objective evidence demonstrating that implementation of Soil</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.3 Productive capacity of land (continued)</p>	<p>8. <u>Soil</u> Biofuel operations shall implement practices that seek to reverse soil degradation and/or maintain soil health. (continued)</p>	<ul style="list-style-type: none"> • <i>Diversion of agrarian and forestry residue products may be compensated by mitigation practices (see below) whenever their implementation ensures that the long-term stability and organic matter of the soil are maintained.</i> <p><u>Reference documents to be used</u></p> <ul style="list-style-type: none"> • FAO Conservation Agriculture • Mitigation practices for diversion of residues, as in the “Sustainable Forestry for Bioenergy and Bio-based Products” toolkit from the US National Learning Center for Private Forest and Range Landowners • Soil and Water Assessment Tool (SWAT) <p>[Also relevant to aspect(s)/issue(s): 1.4 Crop management and agrochemical use; 1.8 Waste management; and 2.7 Good management practices and continuous improvement.]</p>	<p>Management Plan effectively reverts soil degradation and restores physical, chemical and/or biological soil properties to optimal levels.</p>
<p>1.4 Crop management and agrochemical use</p> <p>Back to table of contents</p>	<p>11. <u>Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of</p>	<p>11.d Good practices shall be implemented for the storage, handling, use, and disposal of biofuels and chemicals.</p> <p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processor and Biofuel Producer.</p> <p><u>11.d.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • None of the chemicals recorded in the WHO’s 	<p>11.d.i.1. The participating operator provides objective evidence demonstrating that there is no storage or use of any chemicals recorded in the WHO’s 1a and 1b lists.</p> <p>11.d.i.2. The participating operator has listed in the ESMP the type and annual volume used of chemicals</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.4 Crop management and agrochemical use (continued)</p> <p>Back to table of contents</p>	<p>damages to the environment and people.</p> <p>See general guidance for Principle 11.</p>	<p>1a and 1b lists shall be used. The use of chemicals recorded in Annex III of the Rotterdam Convention and in the Stockholm Convention on Persistent Organic Pollutants (POPs) shall be listed (type and annual volume used) and a plan to phase out any such chemical over the three years following certification shall be set.</p> <ul style="list-style-type: none"> • Manufacturer’s safety instructions for the storage, handling, use, and disposal of chemicals shall be followed. • The use of ground or aerial pesticides shall comply with the FAO’s Guidelines on Good Practices for Ground and Aerial Applications of Pesticides. Any chemical used in biofuel operations shall be in accordance with the manufacturer’s safety instructions. <p><u>11.d.2 Progress requirements</u></p> <ul style="list-style-type: none"> • None of the chemicals recorded in Annex III of the Rotterdam Convention or in the Stockholm Convention on Persistent Organic Pollutants shall be used within three years after certification. 	<p>listed in the Stockholm Convention or in Annex III of the Rotterdam Convention and provides objective evidence demonstrating that a plan to eliminate the use of such chemicals within three years following the first certification is and implemented.</p> <p>11.d.i.3. The participating operator provides objective evidence that all staff and contractors involved with chemical use receive training in storage, handling, use, disposal and emergency procedures following accidental spillages.</p> <p>11.d.i.4. The participating operator provides objective evidence that manufacturer’s safety instructions for the storage, handling, use and disposal of chemicals are strictly implemented.</p> <p>11.d.i.5. The participating operator provides objective evidence that containers for chemicals are washed and disposed of in an environmentally appropriate way.</p> <p>11.d.i.6. The participating operator provides objective evidence that chemicals are disposed, recycled or destroyed in a manner that minimizes the risk of accidents and potential negative impacts on</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.4 Crop management and agrochemical use (continued)</p>	<p>11. <u>Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people. (continued)</p>	<p>11.d Good practices shall be implemented for the storage, handling, use, and disposal of biofuels and chemicals (continued)</p>	<p>human health and on the environment.</p> <p>11.d.i.7. The participating operator provides objective evidence that measures are in place to reduce the risk of accidents or spills during transportation of chemicals to and within the operations and applicable health, environmental and safety precautions are implemented. (e.g. safely transported using appropriate equipment).</p> <p>11.d.i.8. The participating operator provides objective evidence that the application of pesticides follows the FAO Guidelines on Good Practice for Aerial/Ground Application of Pesticides, or justified equivalent.</p> <p><u>Progress requirement 11.d.i.9.</u> The participating operator provides objective evidence that there is no storage or use of any chemicals listed in the Stockholm Convention or Annex III of the Rotterdam Convention within three years of certification.</p>
<p>1.5 Water availability and quality</p> <p>Back to table of contents</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water</p>	<p>9.b Biofuel operations shall include a water management plan which aims to use water efficiently and to maintain or enhance the quality of the water resources that are used for biofuel operations.</p> <p><u>Operators who must comply:</u></p>	<p>9.b.i.1. The participating operator provides objective evidence demonstrating that a water management plan relating to her/his/its biomass/biofuels operation(s) which ensures efficient use of the water resource(s) and that water quality is maintained or enhanced, has been integrated into</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p>rights.</p>	<p>Feedstock producers, feedstock processors, biofuel producers</p> <p><u>9.b.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • Participating Operators shall implement a water management plan. • The water management plan shall be made available to the public, unless limited by national law or international agreements on intellectual property. • The water management plan shall be consistent with local rainfall conditions not contradict any local or regional water management plans and include the neighbour areas, which receive direct runoff from the operation site. Any negative impact on these neighbour areas shall be mitigated. • The Participating Operator shall undertake an annual monitoring of the success of the implementation of the water management plan. <p><u>9.b.2 Progress requirements:</u></p> <ul style="list-style-type: none"> • The water management plan shall include steps for reusing or recycling waste water, appropriate to the scale and intensity of operation. <p><u>Guidance on Criterion 9.b</u></p> <ul style="list-style-type: none"> • <i>This criterion applies to freshwater, wetlands, and seawater.</i> 	<p>the ESMP and implemented accordingly.</p> <p>9.b.i.2. The participating operator provides objective evidence demonstrating that the water management plan relating to her/his/its biomass/biofuels operation(s) is available to the public unless this is limited by national law or international agreements on intellectual property.</p> <p>9.b.i.3. The participating operator provides objective evidence demonstrating that the water management plan relating to her/his/its biomass/biofuels operation(s) is consistent with local conditions of rainfall, water storage, water distribution and water treatment.</p> <p>9.b.i.4. The participating operator provides objective evidence demonstrating that the water management plan is consistent with any other regional or local water management plans.</p> <p>9.b.i.5. The participating operator provides objective evidence demonstrating that the water management plan includes neighboring areas which receive direct water run-off from her/his/its biomass/biofuels operation(s).</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<ul style="list-style-type: none"> • <i>The water management plan required under 9.b.1 is part of the ESMP developed by the operator.</i> • <i>The water management plan should:</i> <ol style="list-style-type: none"> <i>a. Identify all steps where water withdrawal, discharge and potential runoff occur over the operation, with a description of the techniques used related to water extraction, transport, and discharge, and the most critical steps where these activities occur.</i> <i>b. Include an estimate of any water volume received from the public provision system or withdrawn from the water table or a tank through the production chain, and identifies the source of withdrawal.</i> <i>c. Include an estimate of potential runoff nature and volumes through the production chain and the natural compartment (e.g. soils, water tables or water courses) or collectors (i.e. existing drainage infrastructure) affected by these runoffs.</i> <i>d. Include measures to reduce water consumption and contamination at the most critical steps.</i> • <i>The water management plan has to be adapted to the scale and intensity of operations. Small-scale operators may focus on steps a and d only, as described in the preceding point.</i> • <i>Where watershed impact assessments or</i> 	<p>9.b.i.6. The participating operator provides objective evidence demonstrating that any negative impacts resulting directly or indirectly from her/his/its biomass/biofuels operation(s) on the water resources of the neighboring areas are mitigated fully.</p> <p>9.b.i.7. The participating operator provides objective evidence demonstrating that the water management plan is reviewed and revised periodically (i.e. at least annually) to assess its effectiveness at achieving its stated objectives.</p> <p>9.b.i.8. The participating operator provides objective evidence demonstrating that best practices measures for reusing or recycling of waste water have been identified and are implemented within three years from initial certification.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p><i>similar approaches are required by law, these legal requirements must be met and should be used as far as possible as the basis for meeting the requirements of this criterion. However, where the requirements of this criterion exceed legal requirements, additional actions are required in order to comply with the criterion.</i></p> <p>[Also relevant to aspect(s)/issue(s): 1.9 Environmental sustainability (cross-cutting); and 3.2 Participation and transparency.]</p>	
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>		<p>9.c Biofuel operations shall not contribute to the depletion of surface or groundwater resources beyond replenishment capacities.</p> <p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processors, Biofuel Producers.</p> <p><u>9.c.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • Water used for biofuel operations shall not be withdrawn beyond replenishment capacity of the water table, watercourse, or tank from which the water comes. • Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall: <ol style="list-style-type: none"> a) Identify critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs. 	<p>9.c.i.1. The participating operator provides objective evidence demonstrating that her/his/its biomass/biofuels operation(s) does/do not contribute to exceeding the replenishment capacity of the water table(s), watercourse(s) or water tank(s) at any time during the year.</p> <p>9.c.i.2. Where freshwater intensive biomass/biofuels operations are established in drought prone areas or where irrigated crops are used in drought prone areas, the participating operator provides objective evidence demonstrating that best available practices are used, and that measures are implemented to mitigate changes in water quantity and quality.</p> <p>9.c.i.3.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p><u>9. Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p>The potential impacts of biofuel operations on any of these aspects shall be evaluated, and any negative impacts mitigated.</p> <p>b) Define the use and share of water resources for biofuel operations in agreement with local experts and the community; any water user committees shall be consulted.</p> <ul style="list-style-type: none"> • Irrigated biofuel crops and freshwater-intensive biofuel operation systems shall not be established in long-term freshwater-stressed areas, unless the implementation of: <ol style="list-style-type: none"> a) good practices or b) an adequate mitigation process that does not contradict other requirements in this standard ensures that the water level remains stable. • Participating Operators shall not withdraw water from natural watercourses (e.g. a river) to an extent that modifies its natural trajectory or the physical, chemical and biological equilibrium it had before the beginning of operations. <p><u>9.c.2 Progress requirements:</u></p> <ul style="list-style-type: none"> • The Operator shall demonstrate commitment to the improvement of water efficiency over time through the implementation of water-saving practices, including but not limited to rain water harvesting. 	<p>In drought-prone areas, irrigation is not used unless the operator can demonstrate objective evidence that the level of the water resource used remains stable.</p> <p>9.c.i.4. The participating operator provides objective evidence demonstrating that the use of water from natural water bodies for her/his/its biomass/biofuels operation(s) does not result in a permanent change in its natural course or change the physical, chemical or biological equilibrium the water body had before the biomass/biofuels operation(s) started.</p> <p>9.c.i.5. The participating operator provides objective evidence demonstrating that efficiency of water use has improved within three years of certification through implementation measures to conserve water.</p> <p><u>The following indicators are applicable where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01):</u></p> <p>9.c.i.6. The participating operator provides objective evidence demonstrating that critical aquifer recharge areas, replenishment capacities of local</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p><u>9. Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p><u>Guidance on Criterion 9.c</u></p> <ul style="list-style-type: none"> <i>This criterion applies to freshwater and wetlands (not seawater).</i> <i>The agreed use and share of water resources for biofuel operations includes, for example, the maximum volume to be annually withdrawn from the water table.</i> <i>To ensure a sustainable use of water resources, the amount of water withdrawn from a given source cannot create a negative water balance for this source.</i> 	<p>water tables, watercourses, and ecosystem needs have been identified and evaluated.</p> <p>9.c.i.7 The participating operator provides objective evidence demonstrating that any potential negative impacts of her/his/its biomass/biofuels operation(s) on local water tables, watercourses, and ecosystem needs will be mitigated.</p> <p>9.c.i.8 The participating operator provides objective evidence that the use and sharing of water resources for biomass/biofuels operation(s) has been agreed upon with local experts and the community, and that all water user committees have been consulted.</p>
		<p>9.d Biofuel operations shall contribute to the enhancement or maintaining of the quality of the surface and groundwater resources.</p> <p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processors, Biofuel Producers</p> <p><u>9.d.1 Minimum requirements</u></p> <ul style="list-style-type: none"> Biofuel operations shall not occur on a critical aquifer recharge area without a specific authorization from legal authorities. Participating Operators shall implement the best available practices which aim to maintain 	<p>9.d.i.1. The participating operator provides objective evidence demonstrating that biofuels are not produced or processed in critical aquifer recharge areas, without official authorization from relevant legal authorities.</p> <p>9.d.i.2. The participating operator provides objective evidence demonstrating that best available practices to maintain or enhance the quality of water resources to their optimal level are implemented in her/his/its operation(s).</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p><u>9. Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p>or enhance the quality of surface and ground water resources that are used for biofuel operations to the level deemed optimal for the local system for sustained water supply, ecosystem functioning and ecological services.</p> <ul style="list-style-type: none"> • Adequate precautions shall be taken to contain effluents and avoid runoffs and contamination of surface and ground water resources, in particular from chemicals and biological agents. • Buffer zones shall be set between the operation site and surface or ground water resources. • Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall: <ol style="list-style-type: none"> a) determine the optimal water quality level required to sustain the system, taking into account local economic, climatic, hydrologic and ecologic conditions. <p><u>9.d.2 Progress requirements:</u></p> <ul style="list-style-type: none"> • For existing operations, degradation of water resources that existed prior to certification and for which the Operator is directly accountable shall be reversed. Wherever applicable, Participating Operators (except small-scale Operators) shall participate in projects that aim to improve water quality at a watershed scale. 	<p>9.d.i.3. The participating operator provides objective evidence demonstrating that sufficient precautions have been taken to contain effluents from her/his/its biomass/biofuels operation(s) and prevent contamination of water resources. This includes treatment and/or recycling of waste water and the establishment of buffer zones.</p> <p>9.d.i.4. The participating operator provides objective evidence demonstrating that emergency plans and measures are in place, known and implemented in her/his/its operation(s) in case accidental contamination of water resources is identified.</p> <p>9.d.i.5. For biomass/biofuels operations where degradation of water resources existed before said operation was accepted as a participating operator or part of a participating operator, the participating operator provides objective evidence demonstrating that within three years of certification measures to reverse the degradation of water resources have been implemented and that the participating operator has taken part in projects to improve water quality at the watershed level.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p> <p>Back to table of contents</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<ul style="list-style-type: none"> Waste water or runoff that contains potential organic and mineral contaminants shall be treated or recycled to prevent any negative impact on humans, wildlife, and natural compartments (water, soil). <p><u>Guidance on Criterion 9.d</u></p> <ul style="list-style-type: none"> <i>This criterion applies to freshwater, wetlands, and seawater.</i> <i>For participating operators which trigger the Water Assessment (RSB-GUI-01-009-01), the optimal quality level of water resources used for biofuel operations should be determined through the consultation of local experts, communities and producers, taking into account local economic, climatic, hydrologic and ecologic conditions.</i> <i>The quality of surface and ground water resources is described by their physical, chemical and biological parameters. Possible contaminations of water resources include: microbial and organic contamination; contamination by pesticides or fertilizers (e.g. nitrates, phosphate); contamination by metals, contamination by acids or bases, thermal contamination, sedimentation; and eutrophication.</i> <i>Operators are expected to contribute to enhance the quality of water resources whenever they are already degraded. When</i> 	<p>9.d.i.6 The participating operator provides objective evidence that waste water or runoff with organic or mineral contaminants are treated, recycled or properly disposed of within three years of certification.</p> <p><u>The following indicators are applicable where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01):</u></p> <p>9.d.i.7. The participating operator provides objective evidence that she/he/it has conducted studies to determine the optimal water quality level required to sustain the system, taking into account local economic, climatic, hydrologic and ecologic conditions.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.5 Water availability and quality (continued)</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p><i>the quality of water resources is already deemed optimal, operators are expected to contribute to maintain this level but not necessarily to enhance it.</i></p> <ul style="list-style-type: none"> <i>Further guidance regarding waste management and use of chemicals are outlined in principle 11).</i> <p>[Also relevant to aspect(s)/issue(s): 1.4 Crop management and agrochemical use; 1.8 Waste management; and 3.2 Participation and transparency.]</p>	
<p>1.6 GHG emissions</p> <p>Back to table of contents</p>	<p>3. <u>Greenhouse Gas Emissions</u> Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels.</p>	<p>3.a In geographic areas with legislative biofuel policy or regulations in force, in which biofuel must meet GHG reduction requirements across its lifecycle to comply with such policy or regulations and/or to qualify for certain incentives, biofuel operations subject to such policy or regulation shall comply with such policy and regulations and/or qualify for the applicable incentives.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.</p> <p><u>Guidance on Criterion 3.a</u></p> <ul style="list-style-type: none"> <i>Examples of biofuel policy and regulations include the European Union Renewable Energy Directive (EU RED) for biofuels sold or produced in the European Union market;</i> 	<p>3.a.i1 The Participating Operator has either calculated the GHG emissions of the biofuel using the applicable methodology or provided all necessary input data to the party that performs the calculations.</p> <p>3.a.i2 The Participating Operator maintains documentation of and evidence to support the GHG emissions calculations and the data used in the calculations or provided to external parties.</p> <p>3.a.i3 The Participating Operator provides objective evidence demonstrating that the lifecycle GHG emissions of the biofuel meet the minimum required GHG reductions of the legislative biofuels policy or regulation in force, for the part</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.6 GHG emissions (continued)</p> <p>Back to table of contents</p>	<p>3. Greenhouse Gas Emissions Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p><i>the California Low Carbon Fuel Standard (LCFS) for biofuels sold in the California market; and the U.S. Renewable Fuel Standard (RFS2) for biofuels sold or produced in the U.S. market.</i></p> <ul style="list-style-type: none"> • <i>Lifecycle GHG emissions of biofuel have to be calculated using the methodology prescribed by the applicable policy or regulation.</i> • <i>The criterion requires biofuel to meet minimum lifecycle Greenhouse Gas (GHG) emission reduction thresholds mandated by such policy and regulations.</i> • <i>Where the governmental policy or regulation requires for GHG emission reductions for biofuels to qualify for a specific incentive, the minimum lifecycle GHG emission reduction to qualify for such incentives has to be met.</i> • <i>Examples of incentives include tax exemptions, qualifying for minimum volume quotas, and market incentives within cap-and-trade systems. For example, a biofuel sold in the European Union market has to meet the minimum GHG reduction requirements to be counted towards the quota of 10% target for energy from renewable sources in transport.</i> <p>[Also relevant to aspect(s)/issue(s): 3.1 Compliance.]</p>	<p>of the value chain for which the Participating Operator is responsible.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.6 GHG emissions (continued)</p> <p>Back to table of contents</p>	<p><u>3. Greenhouse Gas Emissions</u> Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p>3.b Lifecycle GHG emissions of biofuel shall be calculated using the RSB lifecycle GHG emission calculation methodology, which incorporates methodological elements and input data from authoritative sources; is based on sound and accepted Science; is updated periodically as new data become available; has system boundaries from Well to Wheel; includes GHG emissions from land use change, including, but not limited to above-and below- ground carbon stock changes; and incentivizes the use of co-products, residues and waste in such a way that the lifecycle GHG emissions of the biofuel are reduced.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.</p> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> • The Participating Operator shall report the lifecycle GHG emissions of the feedstock or biofuel using the RSB GHG Calculation Methodology (RSB-STD-01-003-01). • In certain instances where the RSB methodology is not available for a fuel pathway, the Operator shall report the lifecycle GHG emissions of the feedstock or biofuel using an alternative, RSB-listed methodology, as indicated in the RSB GHG Calculation 	<p>3.b.i.1. The Operator has either (a) conducted all required calculations using the RSB GHG calculation methodology, or (b) used the RSB-listed methodology that are applicable to her/his/its biomass/biofuels operations, or (c) provided all necessary input data to the party that performs the GHG emissions calculations.</p> <p>3.b.i.2. The Participating Operator maintains documentation of and evidence to support the GHG emissions calculations and the data used in the calculations for the RSB calculation methodology OR the RSB-listed methodology.</p> <p>3.b.i.3. If the Operator used a GHG emissions calculation methodology other than the RSB methodology: The participating operator provides objective evidence demonstrating that the same methodology has been used for the entire supply chain of the biofuels up to the point where the participating operator took ownership.</p> <p>3.b.i.4. The Operator has recorded the results of the GHG calculation.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.6 GHG emissions (continued)</p> <p>Back to table of contents</p>	<p><u>3. Greenhouse Gas Emissions</u> Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p>Methodology (RSB-STD-01-003-01).</p> <p><u>Guidance on Criterion 3.b</u></p> <ul style="list-style-type: none"> • <i>The aim of this criterion is to establish a global standard methodology for comparing the GHG benefits of different biofuels in a way that can be enforced in standards.</i> • <i>During the pilot test period, lifecycle GHG calculations will be conducted using the RSB GHG Calculation Methodology (RSB-STD-01-003-01).</i> • <i>RSB will revise this methodology as new scientific data become available and as technological advances lead to new biofuel pathways.</i> • <i>A fuel “pathway” is a given supply chain of feedstock, fuel, production method, and geographical origin. For example: “E.U. rapeseed biodiesel with natural gas as process fuel in CHP plant”, “ Indonesian palm oil biodiesel with methane capture at oil mill”, or “U.S. dry mill corn ethanol with natural gas as process fuel in CHP plant”.</i> • <i>The treatment of co-products, residues and waste in biofuel GHG accounting perspective is specified in the RSB GHG Calculation Methodology (RSB-STD-01-003-01).</i> 	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.6 GHG emissions (continued)</p> <p>Back to table of contents</p>	<p><u>3. Greenhouse Gas Emissions</u> Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p>3.c Biofuel blends shall have on average 50% lower lifecycle greenhouse gas emissions relative to the fossil fuel baseline. Each biofuel in the blend shall have lower lifecycle GHG emissions than the fossil fuel baseline.</p> <p><u>Operators who must comply:</u> Biofuel Blender.</p> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> • Lifecycle greenhouse gas emissions of a biofuel blend, calculated following the methodology in Criterion 3b, shall be on average 50% lower than the applicable fossil fuel baseline. <p>Each biofuel in the blend shall have lower lifecycle GHG emissions, calculated following the methodology in Criterion 3b, than the applicable fossil fuel baseline.</p> <p><u>Progress requirement:</u></p> <ul style="list-style-type: none"> • The minimum lifecycle GHG reduction of the biofuel blend, starting at 50%, shall increase over time. <p><u>Guidance on Criterion 3.c</u></p> <ul style="list-style-type: none"> • “Biofuel blend” refers to a blend of different biofuels, not to a blend of biofuel with fossil fuel. • “Biofuel blender” refers to the blender, 	<p>3.c.i1 For biofuel substitutes of gasoline, diesel, and aviation jet fuel, the lifecycle GHG emissions of biofuel blends, in gCO₂e/MJ-fuel, are on average lower than the gasoline, diesel, and jet fuel baseline by 50%. Note: A biofuels blend can be comprised 100% of the same biofuel.</p> <p>3.c.i.2. For biofuel substitutes of gasoline, diesel, and aviation jet fuel, the lifecycle GHG emissions of each biofuel in a blend, in gCO₂e/MJ-fuel, are lower than the gasoline, diesel, and jet fuel baseline, respectively.</p> <p>3.c.i.3. The participating operator provides objective evidence demonstrating that GHG emissions in their biomass/biofuels operation(s) have been reduced over time.</p> <p>NOTE: The gasoline, diesel and jet fuel baselines are stated in the RSB Fossil Fuel Baseline GHG Calculation Methodology (RSB-STD-01-003-02) in gCO₂e/MJ-fuel.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.6 GHG emissions (continued)</p> <p>Back to table of contents</p>	<p>3. Greenhouse Gas Emissions Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p><i>distributer or retailer of the fuel, i.e., the last chain of custody element before the end user of the fuel.</i></p> <ul style="list-style-type: none"> • <i>A neat biofuel at the point of blending with fossil fuel, sale for end use, or end use is considered a 100% biofuel blend and therefore has to meet the 50% GHG reduction threshold.</i> • <i>The fossil fuel baseline, determined using RSB calculations and indicated in the RSB Fossil Fuel Baseline GHG Calculation Methodology document (RSB-STD-01-003-02), encompasses a gasoline baseline, a diesel fuel baseline and a jet fuel baseline.</i> • <i>The fossil fuel baseline is re-calculated periodically every 5 years to reflect the changing carbon intensity of fossil fuels.</i> • <i>The fossil fuel baseline is a global, average baseline.</i> • <i>Biofuel GHG emissions have to be compared to the gasoline baseline for substitutes of gasoline, to the diesel fuel baseline for substitutes of diesel fuel and to the jet fuel baseline for substitutes of jet fuel.</i> • <i>RSB will review the minimum GHG requirements on a 5-year basis to ensure that they are realistic and technologically feasible.</i> • <i>The minimum GHG emission reduction threshold is expressed as a percentage below the fossil fuel reference.</i> • <i>Biofuel that contributes to the minimization of</i> 	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
1.6 GHG emissions (continued)	<p>3. Greenhouse Gas Emissions Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels. (continued)</p>	<p><i>overall GHG emissions is biofuel produced using certain practices, including, but not limited to, the use of certain types of feedstock (e.g. certain wastes or residues), feedstock that avoids the use of land, or feedstock with co-products that avoid the use of land. Other examples may include production of feedstock on land with few provisioning services, agricultural intensification, or the integration of food, feed, and fuel production with overall higher efficiencies and yields.</i></p> <p>[Also relevant to aspect(s)/issue(s): 1.8 Waste management; and 4.1 Food availability.]</p>	
1.7 Air quality Back to table of contents	<p>10. Air Air pollution from biofuel operations shall be minimized along the supply chain.</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> <i>This principle aims to identify and minimise sources of pollution along the supply chain, with regards to the availability of technologies in the local context and the Operator's ability to use them.</i> 	<p>10.a Air pollution emission sources from biofuel production shall be identified, and air pollution emissions minimized through an air management plan.</p> <p><u>Operators who must comply:</u> Feedstock, Feedstock producer, feedstock processor and biofuel producer.</p> <p><u>10.a.1 Minimum requirements</u></p> <ul style="list-style-type: none"> An emission control plan appropriate to the scale and intensity of operations shall be included as part of the Environmental and Social Management Plan (ESMP) that identifies regard major air pollutants including carbon monoxide, nitrogen oxides, volatile 	<p>10.a.i.1. The participating operator provides objective evidence demonstrating that an emission control plan is included in the ESMP and implemented, which:</p> <ul style="list-style-type: none"> identifies the pollutants released at the biomass/biofuel operations, including carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, sulfur compounds, dioxins and other substances recognized as potentially harmful to the environment and/or human health; identifies all sources of air pollutions in the biomass/biofuel operations, and the amount and nature of emissions per point source;

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.7 Air quality (continued)</p> <p>Back to table of contents</p>	<p>10. <u>Air</u> Air pollution from biofuel operations shall be minimized along the supply chain. (continued)</p>	<p>organic compounds, particulate matter, sulphur compounds, dioxins and other substances recognised as potentially harmful for the environment or human health. The plan shall identify all potential air pollution sources and describe their nature.</p> <p><u>10.a.2 Progress requirements</u></p> <ul style="list-style-type: none"> • The Participating Operator shall investigate and, whenever possible in the local context, implement Best Available Technology (BAT) to reduce air pollution, appropriate to the scale and intensity of operation. <p><u>Guidance on Criterion 10.a</u></p> <ul style="list-style-type: none"> • <i>The availability and affordability of technologies for air pollution reduction in the country of operation shall be considered by the auditor in charge of certification to assess compliance with this criterion.</i> • <i>Some examples of possible air emission sources include, but are not limited to, open burning and boiler stacks.</i> <p>[Also relevant to aspect(s)/issue(s): 1.9 Environmental sustainability: and 2.8 Social sustainability.]</p>	<ul style="list-style-type: none"> • identifies measures implemented to mitigate air pollution, or else provides the rationale for not utilizing such strategies; • monitors the effectiveness of the measures identified and implemented to mitigate air pollution; <p>10.a.i.2. The participating operator provides objective evidence demonstrating that Best Available Technology (BAT) to prevent or reduce air pollution and mitigate its effects and associated risks, has been identified and implemented within three years of certification.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.7 Air quality (continued)</p> <p>Back to table of contents</p>	<p>10. <u>Air</u> Air pollution from biofuel operations shall be minimized along the supply chain. (continued)</p>	<p>10.b Biofuel production shall avoid and, where possible, eliminate open-air burning of residues, wastes or by-products, or open air burning to clear the land.</p> <p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processors</p> <p><u>10.b.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • A plan shall be put in place to phase out any open-air burning of leaves, straw and other agricultural residues within three years following certification. If workers' health and safety is at stake (for instance in manual sugarcane harvesting) or when no viable alternative is available or affordable in the local context, if burning may prevent natural fires, or if the cultivation of the crop periodically requires burning for viability in the long term without any equivalent alternatives (e.g. switch grass), limited open-air burning practices may occur. <p><u>10.b.2 Progress requirements</u> Open air burning of agricultural residues and by-products shall not occur, following the phase-out plan (10.b.1).</p> <p><u>Guidance on Criterion 10.b</u></p> <ul style="list-style-type: none"> • <i>Any open-air burning shall be taken into account in the Greenhouse Gas lifecycle</i> 	<p>Where open-air burning of residues, wastes or by-products occurs, or where open-air burning occurs to clear the land:</p> <p>10.b.i.1. The participating operator provides objective evidence demonstrating that a plan is implemented to phase out open-air burning of residues, wastes or by-products and open air burning to clear the land within three years from certification, except in the following cases:</p> <ul style="list-style-type: none"> • where workers' health and safety is at stake; or • when no viable alternative is available or affordable in the local context; or • if burning may prevent natural fires; or • if the cultivation of the crop periodically requires burning for viability in the long term without any equivalent alternatives. <p>10.b.i.2. In the instances listed in 10.b.i.1 under which limited open air burning is allowed, the participating operator provides objective evidence demonstrating that no alternatives exist which are socially, environmentally and economically feasible.</p> <p>10.b.1.3. The participating operator provides objective evidence that no open air burning of agricultural</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.7 Air quality (continued)</p>	<p>10. <u>Air</u> Air pollution from biofuel operations shall be minimized along the supply chain. (continued)</p>	<p><i>analysis conducted under Principle 3.</i></p> <ul style="list-style-type: none"> • <i>Where appropriate, the guidelines for the implementation of the ASEAN Policy on Zero Burning should be consulted.</i> • <i>An example of when workers health and safety should be taken into consideration is during manual harvesting of crop.</i> • <i>Situations where no viable alternative to open burning is available or affordable in the local context will be determined by the auditor in charge of certification.</i> • <i>Alternatively, operators may use residues to produce biogas through the fermentation of residues. Such process will be taken into account in the Greenhouse Gas lifecycle analysis.</i> <p><u>Reference documents to be used</u></p> <ul style="list-style-type: none"> • Guidelines for the implementation of the ASEAN Policy on Zero Burning <p>[Also relevant to aspect(s)/issue(s): 1.6 GHG emissions.]</p>	<p>residues, wastes or by-products, or open-air burning for land clearing takes place within three years of certification, except under the specific instances described in 10.b.i.1.</p>
<p>1.8 Waste management</p> <p>Back to table of contents</p>	<p>11. <u>Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and</p>	<p>11.e Residues, wastes and by-products from feedstock processing and biofuel production units shall be managed such that soil, water and air physical, chemical, and biological conditions are not damaged.</p> <p><u>Operators who must comply:</u></p>	<p>11.e.i.1. The participating operator provides objective evidence demonstrating that a residue, waste and byproduct management plan, which details how wastes and byproducts are to be handled, destroyed and/or disposed of in appropriate containers to prevent environmental</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.8 Waste management (continued)</p> <p>Back to table of contents</p>	<p>environmental performance, and minimize the risk of damages to the environment and people.</p> <p>See general guidance for Principle 11.</p>	<p>Feedstock processors and biofuel producers.</p> <p><u>11.e.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • A waste and by-product management plan shall exist such that wastes and by-products are handled and/or disposed of in appropriate containers to prevent any environmental contamination and damage to human health. • These products shall not be in direct contact with soils, water sources and air outside the processing and production units unless their innocuousness to the environment and people is officially stated by manufacturers or the country or regional (e.g. EU, ASEAN, ALENA) guidelines. In all other cases, handling and disposal must follow the manufacturer’s recommendation and the country or regional (e.g. EU, ASEAN, ALENA) guidelines. • For new and expanding operations, the design of operations shall integrate the necessary infrastructure for safe burning of processing waste and by-products. • For existing projects, a strategy shall be set to develop the necessary infrastructures for safe burning of waste and by-products. <p><u>11.e.2 Progress requirements</u></p> <ul style="list-style-type: none"> • Measures shall be taken to implement clean and efficient processes for conversion of 	<p>contamination and damage to human health, is included in the ESMP and implemented.</p> <p>11.e.i.2. The participating operator provides objective evidence demonstrating that residues, wastes and by-products are not in direct contact with soils, water sources and air outside the processing and production units unless their innocuousness to the environment and people is officially stated by manufacturers or the country or regional (e.g. EU, ASEAN, ALENA) guidelines.</p> <p>11.e.i.3. The participating operator provides objective evidence demonstrating that handling and disposal of non-innocuous residues, wastes and byproducts, follows manufacturer’s recommendations and the country or regional (e.g. EU, ASEAN, ALENA) guidelines.</p> <p>11.e.i.4. The participating operator provides objective evidence demonstrating that all staff and contractors involved with handling, storage, disposal or use of residues, wastes and byproducts receive training in storage, handling, use, disposal and emergency procedures following accidental spillages.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.8 Waste management (continued)</p> <p>Back to table of contents</p>	<p><u>11. Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people. (continued)</p>	<p>residues, wastes or by-products into energy (e.g. collect biogas or heat from fermenting or burning wastes and by-products in order to generate electricity or heat) appropriate to the scale and intensity of operation. Such processes shall always occur in an appropriate facility to minimise air pollution from substances recognised as potentially harmful for the environment or human health. Solid residues from fermentation or burning shall be disposed of such that soil and water conditions are not damaged or according to national regulations.</p> <ul style="list-style-type: none"> • For others than small-scale Operators, by-products or wastes shall also be reused by the processing/production unit or transferred to other sectors whenever their use may improve the overall system's energy balance, greenhouse gas emissions, and/or economic viability without impairing the other principles and criteria in this standard. <p><u>Guidance on Criterion 11.e</u></p> <ul style="list-style-type: none"> • <i>Examples of measures to convert wastes into energy include, but are not limited to, collecting biogas or heat from fermentation and burning wastes or byproducts to generate electricity or heat.</i> <p>[Also relevant to aspect(s)/issue(s):</p>	<p>11.e.i.5. For operations started after the 1st of January 2009, there exists the proper infrastructure for the safe burning of any residue, waste and by-product or, for operations started prior to the 1st of January 2009, the participating operator has a strategy in place to develop such infrastructures.</p> <p><u>Progress requirements</u> 11.e.i.6. The participating operator provides objective evidence demonstrating that within three years of certification all solid residues from burning or fermentation of wastes or byproducts are disposed of such that soil and water conditions are not damaged.</p> <p>11.e.i.7. The participating operator provides objective evidence demonstrating that within three years of certification residues, wastes or by-products are recycled or processed (e.g. burning, fermentation, gasification, etc.) to produce gas, electricity or heat, or in some other way improve the overall system efficiency, with appropriate license and within an appropriate facility, or transferred to other sectors when their transfer may improve the overall system's energy balance, greenhouse gas emissions, and/or economic viability without impairing the other principles and criteria in this</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
1.8 Waste management (continued)		<p>1.3 Productive capacity of land; 1.5 Water availability and quality; 1.6 GHG emissions; 1.7 Air quality; and 2.5 Human health and safety.]</p>	standard.
<p>1.9 Environmental sustainability (cross-cutting)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis.</p> <p><u>General guidance</u></p> <ul style="list-style-type: none"> <i>The RSB Impact Assessment Guidelines (RSB-GUI-01-002-01), the Screening Guidelines (RSB-GUI-01-002-02), the ESIA Guidelines (RSB-GUI-01-002-03), the RESA Guidelines (RSB-GUI-01-002-04), the ESMP Guidelines (RSB-GUI-01-002-05) and the guidelines for specialized</i> 	<p>2.a Biofuel operations shall undertake an impact assessment to assess impacts and risks and ensure sustainability through the development of effective and efficient implementation, mitigation, monitoring and evaluation plans.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> Where an impact assessment is required by national regional, and/or local laws, the process shall be integrated with the RSB impact assessment process to avoid duplication of efforts, but the higher and more comprehensive standard shall be applied. A screening exercise shall be required for all new and existing operations and extensions to operations, of all sizes to determine whether a full ESIA or Rapid Environmental or Social Assessment (RESA) is required. The screening exercise shall be done in accordance with the Screening Guidelines 	<p>2.a.i.1. The participating operator provides objective evidence determining the extent of the environmental and social impact assessment required for her/his/its operation(s) (i.e. whether the outcomes need to be equivalent with an Environmental and Social Impact Assessment (ESIA), a Rapid Environmental and Social Assessment (RESA) or whether neither of these studies or associated specialist studies are required. The determination conducted by the biomass/biofuels operation(s) of the participating operator followed the Screening Guidelines (RSB-GUI-01-002-02).</p> <p>2.a.i.2. The participating operator provides objective evidence demonstrating that baseline surveys have been completed resulting in outcomes equivalent to those in the RSB guidelines including at minimum:</p> <ul style="list-style-type: none"> land use type as of 1 January 2009 used for the biomass/biofuels operation(s) of the participating operator; current land use type used for the

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p><i>impact assessments are based on internationally-recognized and best practice standards for impact assessments and ensure the quality of the screening process, ESIA, RESA and/or ESMP.</i></p> <ul style="list-style-type: none"> • <i>The RSB Impact Assessment Guidelines (RSB-GUI-01-002-01) have different requirements depending on the nature, intensity and scale of the operations.</i> 	<p>(RSB-GUI-01-002-02).</p> <ul style="list-style-type: none"> • Participating operators shall conduct the RESA or ESIA, if required, in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01), the RESA Guidelines (RSB-GUI-01-002-04) and the ESIA Guidelines (RSB-GUI-01-002-03) respectively, as determined by the scale and intensity of the operations. • The ESIA, if required as determined through the screening exercise, shall be carried out using independent and qualified professionals. • Where biofuel operations will have significant social impacts, as measured during the screening exercise, a social impact assessment process shall be carried out using local experts to ensure that local customs, languages, practices and indigenous knowledge are respected and utilized. • The Environmental and Social Management Plan (ESMP), in accordance with the RSB ESMP Guidelines (RSB-GUI-01-002-05), shall be required for all operations and shall ensure compliance with all RSB Principles & Criteria. Where there are progress requirements, they shall be detailed. • Where specifically stated in a criterion the impact assessment process shall extend beyond the scope of the immediate 	<p>biomass/biofuels operation(s) of the participating operator;</p> <ul style="list-style-type: none"> • physical, chemical and biological soil properties of the biomass/biofuels operation(s) of the participating operator • carbon in soil used for the biomass/biofuels operation(s) of the participating operator; • (in regions of poverty – cross check with 5a.i.1) the socio economic status of directly affected local stakeholders of the biomass/biofuels operation (s) which have been disaggregated according to demographics of age, gender, income status, employment, health and disability; • (in food insecure regions – cross check with 6a.i.1) food availability including access, stability and utilization within the locality of and surrounding the biomass/biofuels operation(s) of the participating operator; • conservation values in and surrounding the biomass/biofuels operation(s) of the participating operator; • ecosystem services in and surrounding the biomass/biofuels operation(s) of the participating operator; • air quality without/before biomass/biofuels production in the areas of the biomass/biofuels operation(s) of the participating operator; • Physical, chemical and biological properties of

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<p>operational area, for instance for food security, water management and use, ecosystem impacts, biodiversity and conservation in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01).</p> <ul style="list-style-type: none"> • Multiple operators applying for certification as one single Participating Operator, as defined in the Standard for Participating Operators (RSB-STD-30-001), shall conduct the RSB impact assessment and management processes jointly. <p><u>Guidance on Criterion 2.a</u></p> <ul style="list-style-type: none"> • <i>The screening exercise may be done by the Operator but its results shall be audited by an independent third party as determined by the RSB certification system.</i> • <i>An ESMP may be developed by the operator but shall be audited by an independent third party as determined by the RSB certification system.</i> • <i>The RESA does not normally require any specialist studies, but if the scoping exercise identifies one or two important aspects that require in depth analysis and study, the specialist studies for these areas can be added to the RESA without the operator having to undergo a full ESIA.</i> • <i>The ESMP requires that baseline data be</i> 	<p>the water resources within and surrounding the biomass/biofuels operation(s) of the participating operator.</p> <p>2.a.i.3. The participating operator provides objective evidence demonstrating that an Environmental and Social Management Plan (ESMP) that integrates all requirements of the RSB standard and that demonstrates how biomass/biofuels operation(s) will mitigate all risks identified through the ESIA/RESA has been compiled and is being implemented.</p> <p>2.a.i.4. The participating operator provides objective evidence demonstrating that all reports, plans, and activities responding to the impact assessment process as well as all assessments and surveys thereto comply with all legal requirements.</p> <p>2.a.i.5. The participating operator provides objective evidence demonstrating that ongoing monitoring of effectiveness of the execution of the ESMP, and that the results of this ongoing monitoring are used to improve the ESMP and the overall performance of the biomass/biofuels operation(s).</p> <p><u>If a RESA or an ESIA is required:</u></p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<p><i>collected as part of the management and monitoring activities in the plan, if this data is not already collected as part of the ESIA or RESA.</i></p> <p>[Also relevant to aspect(s)/issue(s): 1.1 Land-use changes (both direct and indirect); 1.2 Biodiversity and ecosystem services; 1.3 Productive capacity of land; 1.5 Water availability and quality; 1.6 GHG emissions; 1.7 Air quality; 2.8 Social sustainability (cross-cutting); 3.2 Participation and transparency; and 4.5 Food security (cross-cutting).]</p>	<p>2.a.i.6. The participating operator provides objective evidence demonstrating that the environmental and social impact assessment (ESIA) as applicable to her/his/its biomass/biofuels operation(s):</p> <ul style="list-style-type: none"> • covers all social, environmental, economic and other technical aspects of her/his/its biomass/biofuels operations; • identifies all actual and possible future impacts of her/his/its biomass/biofuels operation(s); • identifies all actual and possible future risks associated with her/his/its biomass/biofuels operation(s); • involved social, environmental, economic and other technical experts as well as qualified (and where necessary independent) professionals as required; • involved engagement, consultation and other interaction with affected stakeholders as required.
	<p><u>11. Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance,</p>	<p>11.b The technologies used in biofuel operations including genetically modified: plants, micro-organisms, and algae, shall minimize the risk of damages to environment and people, and improve environmental and/or social performance over the long term.</p> <p><u>Operators who must comply:</u></p>	<p>11.b.i.1. The participating operator provides objective evidence demonstrating that a risk assessment in relation to the use of technologies, including GMOs, has been conducted prior to certification, which:</p> <ul style="list-style-type: none"> • identifies all technologies of her/his/its operation(s) which actually or potentially pose

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p>and minimize the risk of damages to the environment and people.</p> <p>See general guidance for Principle 11.</p>	<p>Feedstock Producers, Feedstock Processors and Biofuel Producers.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • The use of genetically modified organisms shall follow relevant national or international guidelines, laws and agreement, including crop-specific stewardship systems, and local and community coexistence agreements or understandings. • For new operations, Participating Operators shall provide evidence that the hazardous technologies they use do not contradict any of the RSB principles and criteria before the beginning of operation. • Participating Operators using GMOs shall take measures to prevent migration of genetically modified material and shall cooperate with neighbours, regulatory and conservation authorities, and local stakeholders to implement monitoring and preventative measures. Crop-specific and technology-specific mitigation strategies shall be utilized. • The Biosafety Clearinghouse established under the Cartagena Protocol on Biosafety, or any other such clearinghouse established by law, shall be consulted before providing information about specific GMOs, including related risk and countries' decisions regarding 	<p>a social, environmental and/or economic risk to stakeholders, communities, industries, society at large and the environment;</p> <ul style="list-style-type: none"> • identifies all impacts which these identified technologies actually and potentially have on stakeholders, communities, industries, society at large and the environment; • demonstrates the social and environmental benefits brought by these identified technologies compared to the other alternatives; • identifies measures to avoid and/or mitigate actual and potentially negative impacts of these identified technologies of her/his/its operation(s) on stakeholders, communities, industries, society at large and the environment; and • identifies measures to systematically monitor these identified factors and aspects of the biomass/biofuels operation(s), their actual and potential impacts, as well as the measures identified and implemented to avoid or mitigate associated risks and impacts, and the effectiveness of these measures. <p>11.b.i.2. The identified measures (11.b.i.1.) to avoid and/or mitigate negative impacts of the technologies use in biomass/biofuel operation(s) on stakeholders, communities, industries, society at large and the</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p>11. Use of Technology, Inputs, and Management of Waste</p> <p>The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people.</p> <p>(continued)</p>	<p>that technology.</p> <ul style="list-style-type: none"> • For new operations, feedstock producers shall use indigenous crops whenever alternative crops reduce yield and/or environmental and/or social performance compared to indigenous crops. <p><u>Guidance on Criterion 11b</u></p> <ul style="list-style-type: none"> • <i>Improved environmental performances include, for instance, lower water consumption or decreased use of chemical inputs (fertilizers, pesticides), as compared to common practices in the local context.</i> • <i>Improved social performances include, for instance, a better income for small-scale producers and a lower dependency of operators on other actors (e.g. technology providers, banks).</i> • <i>Potential damages to the environment caused by GMOs include, but are not restricted to, the involuntary selection of weeds, plants or pests that are resistant to biocides; the spread of antibiotic-resistant bacteria because of the use of antibiotic-resistant marker genes; damages to beneficial insects; and threats to the viability of certified organic production.</i> • <i>Potential damages caused by GMOs to people include, but are not restricted to, lawsuits and campaigns of intimidation against farmers charged with theft of a company's patented</i> 	<p>environment are implemented.</p> <p>11.b.i.3. The participating operator provides objective evidence demonstrating that any use of technologies identified as potentially hazardous for people or the environment is used in compliance with national laws and internationally accepted scientific protocols and does not contradict any of the RSB Principles and Criteria.</p> <p>11.b.i.4. When using Genetically Modified Organisms, the participating operator provides objective evidence demonstrating that such use follows national or international guidelines, laws and agreements, crop-specific stewardship systems, and local and community coexistence agreements or understandings.</p> <p>11.b.i.5. If Genetically Modified Organisms are used, the Operator has implemented measures to prevent migration of genetically modified material outside of the operation site.</p> <p>11.b.i.6. If Genetically Modified Organisms are used, the participating operator provides objective evidence demonstrating cooperation with neighbors,</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p>11. Use of Technology, Inputs, and Management of Waste</p> <p>The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people.</p> <p>(continued)</p>	<p><i>seed as a result of an involuntary contamination in the field; and the loss of control and autonomy by agricultural producers over decisions regarding their production chains.</i></p> <ul style="list-style-type: none"> • <i>Whenever there are no specific regulations regarding the use of GMOs, the use of GMO technologies may only occur following the completion of a risk assessment and the setting of an appropriate mitigation strategy. Documentation of a qualified scientific risk assessment and risk management guidelines shall be sought from the company providing the biotechnology, from legislation or guidelines in other countries, and from the Biosafety Clearinghouse (BCH – Cartagena Protocol).</i> • <i>Documentation of a qualified scientific risk assessment and risk management guidelines may be sought from the company providing the biotechnology, from legislation or guidelines in other countries, and from the Biosafety Clearinghouse (see URL in footnote). Operators may also report on individual countries' decisions regarding a GMO, as listed in the BCH.</i> <p><u>Reference documents to be used</u></p> <ul style="list-style-type: none"> • Biosafety Clearinghouse (BCH) <p>[Also relevant to aspect(s)/issue(s):</p>	<p>regulatory and conservation authorities, and local stakeholders in the monitoring of the impacts of GMOs and measures to prevent negative impacts on stakeholders, communities, industries, society at large and the environment.</p> <p>11.b.i.7. If Genetically Modified Organisms are used, the participating operator provides objective evidence demonstrating that the Biosafety Clearinghouse established under the Cartagena Protocol on Biosafety has been consulted to identify country specific laws, decisions and declarations that apply to the GMOs in use by the participating operator.</p> <p>11.b.i.8. Operators using non-native crops have documented evidence indicating that an equivalent native crop could not provide the same function with higher yield and/or environmental and/or social performance.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p>	<p>11. <u>Use of Technology, Inputs, and Management of Waste</u></p> <p>The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people.</p> <p>(continued)</p>	<p>2.5 Human health and safety; 2.8 Social sustainability (cross-cutting); and 3.1 Compliance.]</p> <p>11.c Micro-organisms used in biofuel processing which may represent a risk to the environment or people shall be adequately contained to prevent release into the environment.</p> <p><u>Operators who must comply:</u> Feedstock producer, Feedstock processor, and Biofuel Producers.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • In no case shall genetically modified micro-organisms or any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment be released outside the processing/production unit. Any such organism used for processing shall be destroyed or adequately neutralised (i.e. loss of any potentially hazardous character) before being disposed. • The Operator shall implement a plan that includes adequate monitoring and an emergency procedure in case of accidental dissemination of any such micro-organisms into the environment. <p>[Also relevant to aspect(s)/issue(s): 2.5 Human health and safety.]</p>	<p>11.c.i.1. Participating operators who use any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment provide objective evidence demonstrating that measures have been developed and implemented, and are monitored for effectiveness to:</p> <ul style="list-style-type: none"> • prevent release of such organisms outside the processing/production unit; • ensure that such organisms are destroyed or neutralized before disposal; and • address any possible emergency and accidental release of such organisms and have measures in place to mitigate, and if necessary, compensate any impacts of accidental release of any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment. <p>11.c.i.2. The participating operator provides objective evidence demonstrating that personnel involved in her/his/its biomass/biofuels operation(s) have been trained and is experienced in storage, handling, use, disposal and emergency procedures for any microorganisms that pose a risk</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>1.9 Environmental sustainability (cross-cutting) (continued)</p>	<p>11. <u>Use of Technology, Inputs, and Management of Waste</u> The use of technologies in biofuel operations shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people. (continued)</p>	<p>11.c Micro-organisms used in biofuel processing which may represent a risk to the environment or people shall be adequately contained to prevent release into the environment. (continued)</p>	<p>(pathogenic, mutagenic, contaminant, etc.) to human health or the environment.</p> <p>11.c.i.3. The participating operator provides objective proof demonstrating that there is no evidence that any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment have been detected outside processing/production units, and/or in areas surrounding her/his/its operation(s).</p> <p>11.c.i.4 The participating operator provides objective evidence demonstrating that an adequate monitoring plan and emergency procedure in case of accidental dissemination of such micro-organisms is described in her/his/its Environmental and Social Management Plan (ESMP).</p>
2. SOCIO-ECONOMIC			
<p>2.1 Land tenure/access and displacement</p> <p>Back to table of contents</p>	<p>12. Land Rights: Biofuel operations shall respect land rights and land use rights.</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> <i>The UN Comprehensive Human Rights Guidelines on Development-Based Displacement should</i> 	<p>12.a Existing land rights and land use rights, both formal and informal, shall be assessed, documented, and established. The right to use land for biofuel operations shall be established only after these rights are determined.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p>	<p>12.a.i.1. The participating operator provides objective evidence demonstrating that the formal and customary (traditional) land rights and land use rights relating to her/his/its biomass/biofuels operation(s) are not disputed.</p> <p>12.a.i.2. Stakeholders confirm that the formal and any</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.1 Land tenure/access and displacement (continued)</p> <p>Back to table of contents</p>	<p><i>provide a basis for the implementation of this principle.</i></p> <ul style="list-style-type: none"> <i>Court rulings regarding legitimacy of disputers have to be respected, but the fact that a dispute is in legal process does not necessarily define it as legitimate</i> <i>Particular attention should be made to impacts on women and their land use rights (even if not listed on the title) and other vulnerable groups such as pastoralists or landless people.</i> <i>Ensuring compliance with the criteria under Principle 12 should be part of the impact assessment process described under Principle 2, which ensures participatory processes.</i> 	<p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> Where the screening exercise of the RSB impact assessment process reveals a negative impact to existing land rights and land use rights by biofuel operations, the Participating Operator shall conduct a Land Rights Assessment (RSB-GUI-01-012-01). Land under legitimate dispute shall not be used for biofuel operations until any legitimate disputes have been settled through Free, Prior and Informed Consent and negotiated agreements with affected land users. <p><u>Guidance on Criterion 12.a</u></p> <ul style="list-style-type: none"> <i>Legitimacy of the dispute shall be determined by the auditor using the Land Rights Assessment Guidelines (RSB-GUI-01-012-01).</i> <i>Particular attention shall be made to impacts on women and their land use rights within the broad definition of land use and tenure, and other vulnerable groups such as pastoralists or landless people.</i> <p>[Also relevant to aspect(s)/issue(s): 3.2 Participation and transparency.]</p>	<p>customary (traditional) land rights and land use rights relating to the biomass/biofuels operation(s) of the participating operator are not disputed.</p> <p>12.a.i.3. The participating operator provides objective evidence demonstrating that land rights and land use rights have been assessed and established during the RSB Screening Exercise (RSB-GUI-01-002-02).</p> <p><u>The following indicators are applicable where the screening exercise has triggered the need for a Land Rights Assessment (RSB-GUI-01-012-01):</u></p> <p>12.a.i.4. The participating operator provides objective evidence demonstrating that the formal and customary (traditional) land rights and land use rights have been comprehensively assessed, established and documented following the guidelines detailed in the RSB Land Rights Assessment (RSB-GUI-01-012-01).</p> <p>12.a.i.5. Stakeholders confirm that the formal and customary (traditional) land rights and land use rights relating to the biomass/biofuels operation(s) of the participating operator have been established.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.2 Rural and social development</p> <p>Back to table of contents</p>	<p><u>5. Rural and Social Development:</u> In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities.</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> • <i>Human poverty indices shall be used in the socio-economic baseline survey, for instance, the Human Poverty Index (HPI) as developed by the UNDP. The HPI incorporates such human development indicators as life expectancy, knowledge (literacy, education, school enrollment ratios), and standard of living, as well as capturing social exclusion. Local Human Poverty Indicators can be developed as part of the ESIA, using existing tools available (UNDP, Development Banks, FAO).</i> 	<p>5.a In regions of poverty, the socioeconomic status of local stakeholders impacted by biofuel operations shall be improved.</p> <p><u>Operators who must comply:</u> Feedstock producer, Feedstock processor, Biofuel producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Where the socioeconomic baseline survey undertaken social impact assessment process in accordance with the Social Impact Assessment (RSB-GUI-01-005-01) identifies an excess of unemployed or underemployed labour in the locality of the operations, biofuel production shall optimize the job creation potential. • The operator shall assess ways in which the use of permanent and local labour can be promoted and introduced over the use of migrant, seasonal and casual labour. • If it is determined through the RSB impact assessment or monitoring process that mechanization is the optimal choice from an environmental, economic, and social perspective, the transition from labor intensity to mechanization shall be done in a fair and equitable way for existing workers where as many of the existing workers as possible are retrained and employed in the mechanized process. 	<p>5.a.i.1. The participating operator provides objective evidence analyzing whether her/his/its biomass/biofuels operation(s) is/are in a region of poverty.</p> <p>In regions of poverty:</p> <p>5.a.i.2. The participating operator provides objective evidence demonstrating that measures to improve their socio-economic status have been agreed with directly affected local stakeholders.</p> <p>5.a.i.3. Local stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that measures agreed with the management of and implemented by the biomass/biofuels operation(s) of the participating operator improve their socio-economic status.</p> <p>5.a.i.4. The measures agreed as per indicator 5.a.i.2. include measures to mitigate negative socio-economic impacts resulting directly or indirectly from the biomass/biofuels operation(s) on the directly affected stakeholders.</p> <p>5.a.i.5.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.2 Rural and social development (continued)</p> <p>Back to table of contents</p>	<ul style="list-style-type: none"> • <i>The risks to livelihoods and opportunities for rural and social development shall be documented and clear and measurable targets for mitigation measures negotiated through free prior and informed consent.</i> • <i>Small scale operators that employ workers shall comply with this principle.</i> • <i>Operators shall work closely with national, provincial and/or local governments and programs to apply this principle.</i> 	<ul style="list-style-type: none"> • Measured improvements in the social and economic indicators as set against the baseline survey carried out under the ESIA shall be targeted for review every two years. • Skills training shall be provided by the Operator if necessary to ensure the implementation of this criterion. • Cultural sensitivity and respect for existing social structures shall be applied in the development of options for compliance with this criterion. • At least one measure to significantly optimise the benefits to local stakeholders shall be implemented within a five year period of the start of the operations, and these include, but are not limited to the following: <ol style="list-style-type: none"> a) Creation of year round and/or long term jobs b) The establishment of governance structures that support empowerment of small scale farmers and rural communities such as co-operatives and micro credit schemes c) Use of the locally produced bio-energy to provide modern energy services to local poor communities d) Shareholding options, local ownership, joint ventures and partnerships with the local communities 	<p>Local workers confirm that the management of the biomass/biofuels operation(s) of the participating operator has preferred and continues to prefer local workers where available over migrant labor.</p> <p>5.a.i.6. Local workers confirm that the management of the biomass/biofuels operation(s) of the participating operator has created and continues to create permanent employment opportunities.</p> <p>5.a.i.7. The participating operator provides objective evidence demonstrating that skill-training programs that support the employment of permanent workers and of local workers are in place and implemented.</p> <p>5.a.i.8. The participating operator provides objective evidence demonstrating that where introduction of mechanization leads to a reduction in labor intensity this solution is preferable from a social and environmental and/or economic perspective.</p> <p>5.a.i.9. Where introduction of mechanization leads to a reduction in labor intensity the directly affected stakeholders confirm this solution is preferable from a social and environmental and/or economic</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.2 Rural and social development (continued)</p> <p>Back to table of contents</p>	<p><u>5. Rural and Social Development:</u> In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities. (continued)</p>	<p>e) Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools.</p> <p><u>Guidance on Criterion 5.a</u></p> <ul style="list-style-type: none"> • <i>The socio-economic baseline survey completed as directed in the ESIA guidelines will determine if the target area of biofuel production is a region of poverty.</i> • <i>In areas where social impact assessment process indicates that local livelihoods could be negatively impacted upon by biofuel operations, mitigation plans shall include options to address this as suggested in the RSB Social Impact Assessment Guidelines (RSB-GUI-01-005-01).</i> • <i>Best practice (such as that from Brazilian sugar cane) on dealing with the transition from labor intensity to mechanization shall be used as a source of information for a proposed transition to mechanizations.</i> <p>[Also relevant to aspect(s)/issue(s): 2.4 Employment, wages and labour conditions; 2.5 Human health and safety; 2.6 Energy security and access; 2.7 Good management practices and continuous improvement; 2.8 Social sustainability (cross-cutting); 3.1 Compliance;</p>	<p>perspective.</p> <p>5.a.i.10. Where introduction of mechanization leads to a reduction in labor intensity the directly affected stakeholders confirm that the maximum possible number of employees was retained through re-assignment and re-training.</p> <p>5.a.i.11. Where introduction of mechanization leads to a reduction in labor intensity the directly affected stakeholders confirm that the effects on workers who were not retained were mitigated through (a) social action plan(s).</p> <p>5.a.i.12. The participating operator provides objective evidence demonstrating that at least one of the following has been achieved within a three-year period of the start of operations:</p> <ol style="list-style-type: none"> Creation of year round and/or long term jobs by the biomass/biofuels operation(s) of the participating operator. The establishment of governance structures that support empowerment of small-scale farmers and rural communities such as co-operatives and micro credit schemes. Use of the locally produced bio-energy to provide modern energy services to local

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<p><u>5. Rural and Social Development:</u> In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities.</p>	<p>3.2 Participation and transparency; 4.2 Food access; and 4.4 Food stability.]</p>	<p>communities. d.Shareholding options, local ownership, joint ventures and partnerships with the local communities. e.Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools.</p>
<p>2.2 Rural and social development (continued)</p> <p>Back to table of contents</p>	<p>(continued)</p>	<p>5.b In regions of poverty, special measures that benefit and encourage the participation of women, youth, indigenous communities and the vulnerable in biofuel production shall be designed and implemented.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor, Biofuel Producer</p> <p><u>5.b.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • Data for rural poor women in regions of poverty shall be disaggregated in the baseline social surveys to assist with the design of special programs for the targeted people. <p><u>5.b.2 Progress requirements:</u></p> <ul style="list-style-type: none"> • Training and capacity building shall be required to give effect to this principle. Such training is required for both the workers and also for m management that oversees employment protocols and supervision. <p><u>Guidance on Criterion 5.b</u></p>	<p>The criterion 5.b. and the indicators to criterion 5.b. apply only to biomass/biofuels operations in regions of poverty.</p> <p>5.b.i.1. The participating operator provides objective evidence demonstrating that the management of the biomass/biofuels operation(s) has sufficient understanding of gender issues and issues that relate to youth, indigenous people and vulnerable people.</p> <p>5.b.i.2. The participating operator provides objective evidence demonstrating that a social plan has been agreed with directly impacted stakeholders which includes special measures to benefit women, youth, indigenous people and vulnerable people and involve them in the biomass/biofuels operation(s) of the participating operator.</p> <p>5.b.i.3. Women, youth, indigenous people and vulnerable</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.2 Rural and social development (continued)</p>	<p>5. <u>Rural and Social Development</u>: In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities. (continued)</p>	<ul style="list-style-type: none"> • <i>This criterion shall be implemented using the tools described in the RSB Social Impact Assessment Guidelines (RSB-GUI-01-005-01) that ensure a gender sensitive approach to participatory planning and disaggregation of data for these groups during social assessments baseline studies.</i> • <i>Special measures can include, but are not limited to, the following:</i> <ul style="list-style-type: none"> a) <i>Development of value added industries that are operated and managed by women and youth</i> b) <i>Specification of jobs that are suitable for workers that are considered vulnerable and/or unable to do hard manual labor</i> c) <i>Ensuring that women, youth and the vulnerable are given ample opportunity to apply for work, through careful attention to the ways jobs are advertised and interviews are conducted.</i> <p>[Also relevant to aspect(s)/issue(s): 3.2 Participation and transparency.]</p>	<p>people confirm that the social plan agreed as per indicator 5.b.i.2. is implemented and that benefits are received.</p>
<p>2.3 Access to water and other natural resources</p> <p>Back to table of contents</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water</p>	<p>9.a Biofuel operations shall respect the existing water rights of local and indigenous communities.</p> <p><u>Operators who must comply:</u></p>	<p>9.a.i.1. The participating operator provides objective evidence demonstrating that her/his/its biomass/biofuels operation(s) do not negatively affect (i.e. reduce and/or alter in quality or</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.3 Access to water and other natural resources (continued)</p> <p>Back to table of contents</p>	<p>resources, and respect prior formal or customary water rights.</p>	<p>Feedstock producers, feedstock processors, biofuel producers.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • The use of water for biofuel operations shall not be at the expense of the water needed by the communities that rely on the same water source(s) for subsistence. • The Participating Operator shall assess the potential impacts of biofuel operations on water availability within the local community and ecosystems during the screening exercise of the impact assessment process and mitigate any negative impacts. • Water resources under legitimate dispute shall not be used for biofuel operations until any legitimate disputes have been settled through negotiated agreements with affected stakeholders following a free, prior and informed consent enabling process. • Where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01), Participating Operators shall: <ol style="list-style-type: none"> a) identify downstream or groundwater users and determine the formal or customary water rights that exist; b) evaluate and document the potential impacts of biofuel operations on formal or customary water rights that exist; 	<p>quantity) the water supply to communities which rely on the same water resource(s), as described in the RSB Screening Exercise (RSB-GUI-01-002-02). This may include objective evidence such as:</p> <ul style="list-style-type: none"> • identifying the communities which rely on the same water resource(s) as her/his/its biomass/biofuels operation(s); • analyzing the water supply to communities which rely on the same water resource(s); • analyzing whether the water supply to communities which rely on the same water resource(s) is affected in quality or quantity by her/his/its biomass/biofuels operation(s). <p>9.a.i.2. The participating operator provides objective evidence demonstrating continuous monitoring of the actual and potential impacts of her/his/its biomass/biofuels operation(s) on the availability of water resource(s) within the local community.</p> <p>9.a.i.3. The participating operator provides objective evidence demonstrating that the use of the water resource(s) for her/his/its biomass/biofuels operation(s) is not legitimately disputed by stakeholders which rely on the same water resource(s).</p> <p>9.a.i.4.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.3 Access to water and other natural resources (continued)</p> <p>Back to table of contents</p>	<p>9. <u>Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p>c) respect and protect all formal or customary water rights that exist through the Environmental and Social Management Plan (ESMP) to prevent infringement of such rights. No modification of the existing rights can happen without the Free Prior and Informed Consent (as described in 2a and its guidance) of the parties affected.</p> <p><u>Guidance on Criterion 9.a</u></p> <ul style="list-style-type: none"> • <i>This criterion applies to freshwater, wetlands, and seawater.</i> • <i>The objective of this process is to identify downstream or groundwater users and determine the formal or customary water rights that exist.</i> • <i>Legitimacy of the dispute shall be determined by the auditor against guidelines established by the RSB Water Assessment Guidelines (RSB-GUI-01-009-01).</i> <p>[Also relevant to aspect(s)/issue(s): 1.5 Water availability and access; 3.1 Compliance; and 3.2 Participation and transparency.]</p>	<p>The participating operator provides objective evidence demonstrating that the use of the water resource(s) for her/his/its biomass/biofuels operation(s) has been agreed with free, prior, informed consent by stakeholders which rely on the same water resource(s).</p> <p><u>The following indicators are applicable where the screening exercise has triggered the need for a Water Assessment (RSB-GUI-01-009-01):</u></p> <p>9.a.i.5. If the screening exercise indicated any significant potential impacts of biofuel operations on water availability within the local community, the participating operator provides objective evidence demonstrating that a water rights impact assessment has been completed and any actual or potential negative impacts of her/his/its biomass/biofuels operation(s) on the availability of water resource(s) within the local community have been mitigated.</p> <p>9.a.i.6. The participating operator provides objective evidence demonstrating that the following steps were undertaken:</p> <ul style="list-style-type: none"> • identify all stakeholders which rely on the same water resource(s); • identify formal water rights relating to the same

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.3 Access to water and other natural resources (continued)</p>	<p><u>9. Water</u> Biofuel operations shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights. (continued)</p>	<p>9.a Biofuel operations shall respect the existing water rights of local and indigenous communities. (continued)</p>	<p>water resource(s);</p> <ul style="list-style-type: none"> • identify customary water rights relating to the same water resource(s); • evaluate and identify measures to fully protect the formal or customary water rights to the same water resource(s) and to prevent infringement and/or compromising of such rights; • ensure that the formal or customary water rights to the same water resource(s) are only modified based on Free Prior and Informed Consent of stakeholders relating to and/or relying on the same water resource(s); and • evaluate and identify measures to continuously monitor and ensure comprehensive implementation of the requirements detailed in indicator 9.a.i.6. as listed above. <p>9.a.i.7. The participating operator provides objective evidence demonstrating that the outcomes and agreements resulting from the consultation process detailed under indicator 9.a.i.6. are fully implemented.</p>
<p>2.4 Employment, wages and labor conditions</p> <p>Back to table of contents</p>	<p><u>4. Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers.</p>	<p>4.a Workers shall enjoy freedom of association, the right to organise, and the right to collectively bargain.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p>	<p>4.a.i1 Workers engaged in the operation(s) of the participating operator confirm that they are aware of, and have the right to freely organize, voluntarily negotiate their working conditions and bargain collectively with the company, as established in ILO Conventions 87 and 98.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p><u>General Guidance:</u></p> <ul style="list-style-type: none"> • <i>Employees, contracted labor, small outgrowers, self-employed farmers, and employees of outgrowers, as well as all workers included in the RSB biofuel production value chain, shall all be guaranteed the rights described in this principle.</i> • <i>Key international conventions such as the ILO’s core labor conventions and the UN Declaration on Human Rights shall form the basis for this principle.</i> • <i>This principle aims to promote the UN goal of ‘Decent work’, which consists of four pillars:</i> <ol style="list-style-type: none"> 1) <i>employment generation and enterprise development;</i> 2) <i>social protection;</i> 3) <i>standards and rights at work; and</i> 4) <i>governance and social dialogue.</i> 	<p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • <i>In countries where the law prevents collective bargaining or unionization, Operators shall not interfere with workers’ own efforts to set up representational mechanisms in such cases, and shall provide a mechanism for workers to engage with employers without breaking the law.</i> <p><u>Guidance on Criterion 4.a</u></p> <ul style="list-style-type: none"> • <i>This criterion aims to address the fact that agricultural and informal workers are often excluded from labor law protection.</i> • <i>The ILO’s Freedom of Association and Protection of the Right to Organise Convention (No. 87) and the ILO’s Right to Organise and Collective Bargaining Convention (No. 98) shall provide the basis for the definitions under which this criterion is implemented.</i> 	<p>4.a.i.2. Workers engaged in the operation(s) of the participating operator confirm that they do not fear nor suffer any negative consequences (e.g. loss of privileges, penalties, lack of career advancement) in exercising the right to freely organize, voluntarily negotiate their working conditions and bargain collectively with the management of the operation(s).</p> <p>4.a.i.3. Workers engaged in the operation(s) of the participating operator confirm that there is no perceived or actual threat of undue interference by the management and/or their designated representatives of the operation(s) of the participating operator in workers exercising their rights to freely organize, voluntarily negotiate their working conditions and bargain collectively with the management of the operation(s).</p> <p>4.a.i.4 In situations where the rights to freedom of association and collective bargaining are restricted by law, the Operator allows workers to freely elect their own representatives, does not interfere with such representational mechanisms, and provides a mechanism for workers to freely engage and negotiate with employers without breaking the law analog to the requirements established in ILO</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<ul style="list-style-type: none"> <i>All of the rights provided for in this principle shall apply equally to men and women.</i> 		Conventions 87 and 98.
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>		<p>4.b No slave labour or forced labour shall occur.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Guidance on Criterion 4.b</u></p> <ul style="list-style-type: none"> <i>The ILO's Forced Labor Convention (No. 29) and the ILO Abolition of Forced Labor Convention (105) should provide the basis under which this criterion is implemented.</i> 	<p>4.b.i.1. The participating operator provides objective evidence demonstrating that her/his/its operation(s) does/do not engage in or support the use of forced, compulsory, bonded, trafficked or otherwise involuntary labor as defined in ILO Convention 29 either directly or through independent third parties (e.g. contractors, etc.) engaged in the operations.</p> <p>4.b.i.2. Workers engaged in the operation(s) of the participating operator confirm that they are not required to lodge their identity documents with anyone and that no part of their salary, benefits or property is retained in order to force them to work or stay on the operation(s).</p> <p>4.b.i.3. Spouses and children of workers engaged in the operation(s) of the participating operator are not obliged to work in the operation(s).</p> <p>4.b.i.4. Workers engaged in the operation(s) of the participating operator confirm that they are allowed to leave their employment after due notice</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<p><u>4. Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>		<p>according to their contractual agreements.</p> <p>4.b.i.5. Workers engaged in the operation(s) of the participating operator confirm that they are allowed to leave company premises freely at the end of their work shifts.</p>
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>		<p>4.c No child labor shall occur, except on family farms and then only when work does not interfere with the child’s schooling and does not put his or her health at risk.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Schooling age limit is that defined in the national legislation or 14, whichever is higher. • Hazardous child labor as defined by ILO Convention 138 is not allowed. • Work by children on family small holdings is only acceptable under adult supervision and when work does not interfere with the child’s schooling nor puts at risk his or her health. <p><u>Guidance on Criterion 4.c</u></p> <ul style="list-style-type: none"> • <i>The ILO’s Minimum Age Convention (No. 138) and Worst Forms of Child Labor Convention (No. 182) should provide the basis</i> 	<p>4.c.i.1. The participating operator provides objective evidence demonstrating that her/his/its operation(s) does/do not engage children of age 14 and under (or the legal national age). (Exceptions may be made in the case of family farms – see 4.c.i.3., 4.c.i.4. and 4.c.i.5. below)</p> <p>4.c.i.2. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) workers under the age of 18 do not undertake hazardous or dangerous work, as defined by ILO convention 138. In the case of family farms only:</p> <p>4.c.i.3. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) where permitted by law, children between 12 and 14 years of age can work part time on family farms, only if they are family members or neighbors in a community where children have</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p>4. Human and Labour Rights Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers.</p>	<p><i>under which this criterion is implemented.</i></p>	<p>traditionally helped with agricultural work.</p> <p>4.c.i.4. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on family farms does not interfere with their educational, social or physical development and that the work day including schooling, transport and work does not exceed 10 hours.</p> <p>4.c.i.5. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on family farms does not have negative impacts on the children's schooling (i.e. this may be verified by interviewing the children and the teachers at the local school).</p> <p>4.c.i.6. The participating operator provides objective evidence demonstrating that in her/his/its operation(s) the work of children on family farms does not have negative impact on the children's health and development (i.e. this may be verified by interviewing children and local health service providers).</p>
		<p>4.d Workers shall be free of discrimination of any kind, whether in employment or opportunity, with respect to gender, wages,</p>	<p>4.d.i1 Workers engaged in the operation(s) of the participating operator confirm that they are not</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>working conditions, and social benefits.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Employees, contracted labor, small outgrowers, and employees of outgrowers shall all be free of discrimination as per ILO Convention 111. • Career development shall be encouraged for all workers • Work sites shall be safe for women; free from sexual harassment and other discrimination and abuse; and promote access to jobs, skills training, recruitment and career development for women to ensure more gender balance in work and career development. <p><u>Guidance on Criterion 4.d</u></p> <ul style="list-style-type: none"> • <i>The ILO's Discrimination (Employment and Occupation) Convention (No. 111) and Equal Remuneration Convention (No. 100) shall provide the basis for the definitions under which this criterion is implemented.</i> 	<p>subjected to any form of discrimination in hiring, remuneration, benefits, access to training, promotion, termination, retirement or any other aspect of employment, based on race, color, gender, sex, religion, political opinion, national extraction, social origin, sexual orientation, family responsibilities, marital status, union membership, age or any other condition that could give rise to discrimination.</p> <p>4.d.i2 Workers engaged in the operation(s) of the participating operator confirm that they are not subjected to corporal punishment, mental or physical oppression and coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation in the workplace and where applicable in residences and other facilities provided by the operation(s) of the participating operator for use by workers.</p> <p>4.d.i.3. Male and female workers engaged in the operation(s) of the participating operator confirm that they have equal access to career development programs (not applicable to family farms or small-scale operators and outgrowers).</p>
		<p>4.e Workers' wages and working conditions shall respect all applicable laws and international conventions, as well as all relevant collective agreements. Where a</p>	<p><u>Minimum requirement:</u> 4.e.i.1. The participating operator provides objective evidence demonstrating that all workers are paid at</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>government regulated minimum wage is in place in a given country and applies to the specific industry sector, this shall be observed. Where a minimum wage is absent, the wage paid for a particular activity shall be negotiated and agreed on an annual basis with the worker. Men and women shall receive equal remuneration for work of equal value.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Wages shall be provided in cash or in another form acceptable to workers. • Any housing provided by the Operator for permanent or temporary workers shall be built and maintained to ensure good sanitary, health, and safety conditions. • For piecework (pay based on production rather than hours), the pay rate must allow workers to earn at least the legal minimum wage or comparable regional wage, whichever is higher, based on an eight-hour workday under average conditions. • The maximum number of regular hours worked per week must not exceed 48. Workers may work overtime which shall be voluntary, but total working hours shall not 	<p>least the government regulated minimum wage in the specific industry sector for the applicable work as required by law, and that this includes all mandated wages, allowances and benefits.</p> <p>4.e.i.2. The participating operator provides objective evidence demonstrating that where government regulated minimum wages do not exist in the specific industry sector, the management of the operation(s) of the participating operator has agreed a wage with the workers.</p> <p>4.e.i.3. Workers engaged in the operation(s) of the participating operator confirm that the agreed wage, as referred to in indicator 4.e.i.2. is agreed freely on an annual basis.</p> <p>4.e.i.4. The participating operator provides objective evidence demonstrating that such agreements are in line with all applicable laws and international conventions and local collective agreements.</p> <p>4.e.i.5. Workers engaged in the operation(s) of the participating operator confirm that men and women earn equal pay for equal work.</p> <p>4.e.i.6.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>exceed 80 per week.</p> <p><u>Guidance on Criterion 4.e</u></p> <ul style="list-style-type: none"> • <i>The ILO's Equal Remuneration Convention (100) should provide relevant definitions for this criterion.</i> <p>[Also relevant to aspect(s)/issue(s): 3.1 Compliance.]</p>	<p>Workers engaged in the operation(s) of the participating operator confirm that for piecework, the pay rate allows male and female workers to earn at least the legal minimum wage (or comparable regional wage) for the specific work, based on an eight-hour workday under average conditions.</p> <p>4.e.i.7. Workers engaged in the operation(s) of the participating operator confirm that wages are paid on a monthly basis, or more frequently, in cash or in another form acceptable to workers.</p> <p>4.e.i.8. Workers engaged in the operation(s) of the participating operator confirm that no deductions from wages as a result of disciplinary measures are made.</p> <p>4.e.i.9. Workers engaged in the operation(s) of the participating operator confirm that all agreements relating to pay, benefits and conditions of employment are upheld.</p> <p>4.e.i.10. Work plans of and workers engaged in the operation(s) of the participating operator confirm that the maximum number of hours worked per</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p> <p>Back to table of contents</p>	<p>4. Human and Labour Rights Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>4.e Workers' wages and working conditions shall respect all applicable laws and international conventions, as well as all relevant collective agreements. Where a government regulated minimum wage is in place in a given country and applies to the specific industry sector, this shall be observed. Where a minimum wage is absent, the wage paid for a particular activity shall be negotiated and agreed on an annual basis with the worker. Men and women shall receive equal remuneration for work of equal value. (continued)</p>	<p>regular week does not exceed 48 hours on average.</p> <p>4.e.i.11. Workers engaged in the operation(s) of the participating operator confirm that overtime work takes place only in exceptional circumstances (e.g. peak production periods), that overtime work is voluntary, and that the total number of work hours including overtime does not exceed 80 hours per week.</p> <p>4.e.i.12. Workers engaged in the operation(s) of the participating operator confirm that overtime is paid according to legal requirements and existing industry standards, and that the pay for overtime is equal to or higher than the pay for regular work time.</p> <p>4e.i.13. Workers engaged in the operation(s) of the participating operator confirm that in cases of terminations/redundancies/lay-offs, economic compensation for workers is provided according to relevant national labor legislation, and that in the absence of national legislation, the labor contract includes a provision for economic compensation.</p>
		<p>4.g Operators shall implement a mechanism to ensure the human rights and labor rights outlined in this principle apply equally when</p>	<p>4.g.i.1. The participating operator maintains up-to-date records of all independent third parties engaged in</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.4 Employment, wages and labor conditions (continued)</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>labor is contracted through third parties.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Progress requirements (required within three years of certification)</u></p> <ul style="list-style-type: none"> Participating Operators shall identify instances where those working within the scope of their operational function (feedstock producer, feedstock processor, or biofuel producer) are contracted outside of the direct influence of the operation by external parties and shall implement a mechanism to ensure that such contracted workers are afforded the same rights as described in this principle as employed staff within the process. 	<p>her/his/its operation(s).</p> <p>4.g.i.2. The participating operator provides objective evidence demonstrating that independent third parties engaged in her/his/its operation(s) are compliant with the requirements of Principle 4.</p>
<p>2.5 Human health and safety</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers.</p> <p>See general guidance for Principle 4</p>	<p>4.f Conditions of occupational safety and health for workers shall follow internationally-recognized standards.</p> <p><u>Operators who must comply:</u> Feedstock producer, Feedstock processor and Biofuel producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> Workers shall not be exposed to any occupational health or safety hazards without adequate protection and training as defined in national law and international standards. 	<p>4.f.i.1. The participating operator provides objective evidence demonstrating where applicable comprehensive and consistent compliance with the provisions of ILO convention 184.</p> <p>4.f.i.2. The participating operator provides objective evidence demonstrating that workers are skilled in the implementation of their prescribed activities and jobs to minimize health and safety risks and the risk of work related accidents.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.5 Human health and safety</p> <p>Back to table of contents</p>	<p>4. Human and Labour Rights Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>Guidance on Criterion 4.f</p> <ul style="list-style-type: none"> <i>The ILO's Occupational Safety and Health Convention (No. 155), the ILO's Safety and Health in Agriculture Convention (184), ILO Sectoral Activities Program on conditions for wage workers in agriculture, and the World Health Organization's London Declaration from the 3rd Ministerial Conference on Environment and Health shall form the basis under which this criterion is implemented.</i> <p>[Also relevant to aspect(s)/issue(s): 2.4 Employment, wages and labour conditions; 3.1 Compliance; and 4.3 Food utilization.]</p>	<p>4.f.i.3. The participating operator has a health and safety policy in place, which applies to all workers, including contractors, workers and outgrowers. (i.e. this indicator is not applicable to small operations).</p> <p>4.f.i.4. Small participating operators do not need to have the procedures required in indicator 4.f.i.3. in written form, but they need to be able to demonstrate that the requirements of indicators 4.f.i.3. are complied with, and that their workers are aware of, and confirm implementation of such requirements (procedures and measures).</p> <p>4.f.i.5. The participating operator provides objective evidence demonstrating that procedures and measures addressing emergencies and accidents are in place, fully implemented, continuously monitored and improved, and apply to all workers engaged in the operations of the participating operator.</p> <p>4.f.i.6. The participating operator provides objective evidence demonstrating that all workers understand the participating operators' accident and emergency procedures and measures.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.5 Human health and safety (continued)</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>4.f Conditions of occupational safety and health for workers shall follow internationally-recognized standards. (continued)</p>	<p>4.f.i.7. The participating operator maintains, and reviews periodically records of all work-related accidents, and adjusts its accident and emergency procedures to minimize the risk of work-related accidents.</p> <p>4.f.i.8. The participating operator provides objective evidence demonstrating that first aid kits, fire extinguishers, and spill response material are available in sufficient quantity (i.e. readily available and accessible to workers) and quality (i.e. current and periodically serviced and appropriate to address the associated hazards and risks) at all sites including mobile facilities and in the vicinity of agricultural sites, and that workers are knowledgeable of such equipments and its use.</p> <p>4.f.i.9. The participating operator provides objective evidence demonstrating that all workers are provided with and regularly use personal protective equipment to protect them from all occupational health and safety hazards associated with their respective jobs.</p> <p>4.f.i.10. The participating operator provides objective evidence demonstrating that all workers are;</p> <ul style="list-style-type: none"> • trained, knowledgeable and regularly using

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.5 Human health and safety (continued)</p> <p>Back to table of contents</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>4.f Conditions of occupational safety and health for workers shall follow internationally-recognized standards. (continued)</p>	<p>protective equipment and installations,</p> <ul style="list-style-type: none"> • trained and knowledgeable in interpretation of labels, markings, signs, and other safety relevant audio and/or visual signals, • trained and knowledgeable about work-related health and safety risks and preventative measures for minimizing the risk to health and safety, • trained and knowledgeable about work-related risks to the environment and/or society, • trained and knowledgeable about accident and emergency procedures, • trained and knowledgeable about correct application, transport, storage and handling of hazardous substances and waste, and • trained and knowledgeable about all other aspects of the operation(s) of the participating operator that pose occupational health and safety risks or risks to the environment and/or to society. <p>4.f.i.11. In operation(s) other than small operations the participating operator provides objective evidence demonstrating that specially trained and equipped teams have been established to respond to accidents and emergencies without delay.</p> <p>4.f.i.12. The participating operator provides objective evidence demonstrating that all workers have</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.5 Human health and safety (continued)</p>	<p>4. <u>Human and Labour Rights</u> Biofuel operations shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers. (continued)</p>	<p>4.f Conditions of occupational safety and health for workers shall follow internationally-recognized standards. (continued)</p>	<p>access to clean sanitary facilities and potable (drinking) water.</p> <p>4.f.i.13. The participating operator provides objective evidence demonstrating that any living quarters and infrastructure for sleeping, for sanitary facilities (e.g. toilet/latrines, showers, etc) and facilities for storing, preparing and distributing of food provided to workers are designed, built and regularly maintained to which meet the basic needs of the personnel and their families, and comply with legal requirements, and ensure safe and healthy conditions.</p> <p>4.f.i.14. Workers engaged in the operation(s) of the participating operator confirm that housing provided by the participating operator is in good structural condition, is maintained sufficiently and offers sufficient privacy, sanitary, health, and safety conditions.</p>
<p>2.7 Good management practices and continuous improvement</p> <p>Back to table of contents</p>	<p>2. <u>Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact</p>	<p>2.c Biofuel Operators shall implement a business plan that reflects a commitment to long-term economic viability.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p>	<p>2.c.i.1. The participating operator provides objective evidence demonstrating that (a) business plan(s) for her/his/its biomass/biofuels operation(s) has/have been compiled and (b) that this/these business plan(s) show(s) the commitment of the management of the biomass/biofuels operation(s) to long term economic viability of the</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>2.7 Good management practices and continuous improvement (continued)</p>	<p>assessment and management process and an economic viability analysis.</p> <p>See general guidance for Principle 2.</p>	<ul style="list-style-type: none"> Participating Operators shall develop and implement a business plan that reflects a commitment to long-term economic viability which takes into account the social and environmental principles described in the RSB standard. This information shall be proprietary and shall not form part of the ESIA process. 	<p>biomass/biofuels operation(s).</p> <p>2.c.i.2. The participating operator provides objective evidence demonstrating that the business plan takes into account the social and environmental requirements described in the RSB principles & criteria and the RSB standards.</p> <p>2.c.i.3. The participating operator provides objective evidence demonstrating that the business plan(s) is/are implemented and its effectiveness monitored, and that the business plan(s) are updated and adjusted based on the result of monitoring their effectiveness.</p> <p>2.c.i.4. The participating operator provides objective evidence demonstrating that the business plan(s) objectively reflect(s) the actual situation in and (business) development of the biomass/biofuels operation(s) of the participating operator.</p>
3. GOVERNANCE			
<p>3.1 Compliance</p> <p>Back to table of contents</p>	<p>1. <u>Legality</u> Biofuel operation shall follow all applicable laws and regulations</p> <p><u>General guidance:</u></p>	<p>1.a Biofuel operations shall comply with all applicable laws and regulations of the country in which the operations occur and with relevant international laws and agreements.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and</p>	<p>1.a.i1 The participating operator provides objective evidence demonstrating compliance with the applicable national laws and regulations.</p> <p>1.a.i2</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.1 Compliance (continued)</p> <p>Back to table of contents</p>	<ul style="list-style-type: none"> <i>Applicable laws include those related to the social and environmental sustainability criteria outlined in this standard, including but not limited to regulations and measures governing land tenure and land rights, labor, waste disposal, chemical use, and environmental protection. Applicable laws also include any national or sub-national laws and regulations. Relevant international conventions and treaties include, but are not limited to: the ILO's core labor conventions, the ILO's Convention concerning Indigenous and Tribal Peoples in Independent Countries (No. 169), the Universal Declaration of Human Rights, the Convention on Biological Diversity, the Ramsar Convention on Wetlands,</i> 	<p>Biofuel Producer.</p>	<p>The participating operator provides objective evidence demonstrating compliance with the applicable international laws and agreements that apply to biomass/biofuels operations with regards to this standard.</p> <p>1.a.i3 The participating operator provides objective evidence demonstrating that all applicable licenses, permits and other legal requirements are valid.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.1 Compliance (continued)</p> <p>Back to table of contents</p>	<p><i>the UN Framework Convention on Climate Change, and the UN Fourth World Conference on Women's Beijing Declaration.</i></p> <ul style="list-style-type: none"> <i>In case of conflicts among supra-national, national, regional, and/or local laws, regulations and the RSB standard should always prevail. An RSB requirement going beyond existing laws (i.e. being more constraining) is not considered a conflict in this sense, unless the implementation of the RSB requirement contravenes the law.</i> <i>Some measures operators take to comply with the applicable laws, regulations and relevant international conventions and treaties identified under Principle 01 can also be used to show full or partial compliance with the RSB Principles &</i> 	<p>1.a Biofuel operations shall comply with all applicable laws and regulations of the country in which the operations occur and with relevant international laws and agreements. (continued)</p>	

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
	<i>Criteria.</i>		
<p>3.2 Participation and transparency</p> <p>Back to table of contents</p>	<p>2. <u>Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis.</p> <p>See general guidance for Principle 2.</p>	<p>2.b Free, Prior & Informed Consent (FPIC) shall form the basis for the process to be followed during all stakeholder consultation, which shall be gender sensitive and result in consensus-driven negotiated agreements.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • While FPIC provides the process conditions for stakeholder engagement and negotiated agreements, consensus shall be the decision-making tool applied in all cases and carried out in accordance with the RSB consensus building toolkit in the Impact Assessment Guidelines (RSB-GUI-01-002-01). • The ESIA facilitators shall invite all locally-affected stakeholders, local leaders, representatives of community and indigenous peoples groups and all relevant stakeholders to participate in the consultative process. • The scope of engagement shall be determined by the scale of the operations as set out in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). • Relevant government authorities shall be included in the stakeholder process to ensure 	<p>2.b.i.1. The participating operator provides objective evidence demonstrating that the stakeholders affected by her/his/its biomass/biofuels operations have been identified.</p> <p>2.b.i.2. The participating operator provides objective evidence demonstrating that the stakeholders identified as per indicator 2.b.i.1. have been engaged and consulted and that consensus with these stakeholder has been reached where required.</p> <p>2.b.i.3. The participating operator provides objective evidence that stakeholder engagement and consultation processes, including the numbers of stakeholder meetings and attending participants along with comments, recommendations and consensus agreements resulting from these meetings have been recorded.</p> <p>2.b.i.4. The participating operator provides objective evidence demonstrating that:</p> <ul style="list-style-type: none"> • affected stakeholders have been invited to participate in engagement and consultation processes and if required in decision-making processes;

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<p>efficient streamlining of the process with legal requirements.</p> <ul style="list-style-type: none"> • Those responsible for undertaking the ESIA or RESA shall undertake and document a stakeholder analysis in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). • Participatory methodologies described in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01) shall be used to ensure meaningful stakeholder engagement. Special attention shall be made to ensure that women, youth, indigenous and vulnerable people can participate meaningfully in meetings and negotiations. Where the need is identified by the ESIA facilitator, there shall be informal workshops to build local understanding in the community of the processes that may impact them directly to aid meaningful engagement. • Documentation necessary to inform stakeholder positions shall be made freely available to stakeholders in a timely, open, transparent and accessible manner through distribution channels appropriate to the local conditions in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). • Management documents shall be publicly available, except where this is prevented by 	<ul style="list-style-type: none"> • every possible effort was made to ensure that meetings were convenient for stakeholders to attend; • the methods (e.g. information sharing, group meetings, interviews, questionnaires, workshops, written materials, languages including local dialects, etc.) used to engage and consult with, and if required reach consensus with affected stakeholders were suitable to achieve the intended engagement and consultation processes and, if required, involvement in decision-making processes; • participation of affected stakeholders in engagement, consultation, and if required involvement in decision-making is based on free, prior informed consent by all involved; • information relevant for stakeholder engagement, consultation and stakeholder involvement in decision-making was available and accessible to affected stakeholders; • information for stakeholder engagement, consultation and involvement in decision-making provided in an open and transparent, timely way, prior to meetings and in a format (e.g. including language, style, presentation, etc.) that was appropriate for the respective stakeholder(s) and/or stakeholder group(s) engaged, consulted and involved in decision-making; • stakeholder access to other sources of

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<p>commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes.</p> <ul style="list-style-type: none"> Participating Operators shall seek consensus, in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01), such that individuals or single-issue groups cannot block consensus. Deadlocks shall be broken in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). <p><u>Guidance on Criterion 2.b</u></p> <ul style="list-style-type: none"> <i>The key objectives of stakeholder engagement in regions of poverty shall be those adopted by IFAD in its broad vision of poverty reduction and the Millennium Development Goals:</i> <ul style="list-style-type: none"> <i>(i) enhancing the capabilities of the poor and their organizations to:</i> <ul style="list-style-type: none"> <i>o control their own development in a context of growing inequality and vulnerability, influence public policies and institutions, and exercise greater negotiating power in the market and with other social actors;</i> <i>(ii) improving access by the poor to productive natural resources and technologies and promoting decentralized management of those resources;and</i> <i>(iii) increasing access by the poor to financial services and markets</i> 	<p>information was not restricted or otherwise negatively affected directly or indirectly by the participating operator or be anyone involved directly or indirectly with her/his/its biomass/biofuels operation(s);</p> <ul style="list-style-type: none"> the ESMP and ESIA/RESA, if required, have been presented for consultation with stakeholders including special focus groups such as indigenous peoples, local communities, vulnerable peoples, women and youth to elicit their responses and comments, and where required consensus. dissenting views of individual stakeholders and/or single-issue groups were recorded in any stakeholder engagement, consultation and involvement in decision-making. <p>2.b.i.5. Stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that indicators 2.b.i.1., 2.b.i.2., 2.b.i.3. and 2.b.i.4 were implemented in all aspects.</p> <p>2.b.i.6. The participating operator provides objective evidence demonstrating that stakeholders have been categorized according to the categories listed below, as described in the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01):</p> <ul style="list-style-type: none"> Directly Affected Stakeholders

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<ul style="list-style-type: none"> ● <i>RSB Criterion 2b requires that Free, Prior and Informed Consent (FPIC) form the basis for any stakeholder engagement process and that this process should result in gender sensitive and consensus-driven negotiated agreements. This means that the stakeholder engagement process for an impact assessment process must seek to build consensus and strive to ensure that the final recommendations of the impact assessment process are acceptable to and supported by the directly affected stakeholders. If this is not achieved then a Stakeholder Engagement Report needs to be provided to the RSB auditor, explaining the engagement process that was followed, who participated and indicating who is opposed to the proposals and for what reasons. When making a decision on whether to award accreditation for the biofuel operation then the auditor will take into consideration the extent of stakeholder agreement and/or opposition, the types of stakeholders opposed the proposal(s) and for what reasons, and whether the proposal complies with the RSB Principles & Criteria or not. There should be a significant majority of directly affected stakeholders in support of the project; it is the responsibility of the Participating Operator to demonstrate that this is the case to the auditor. Dissenting</i> 	<ul style="list-style-type: none"> ○ Beneficiaries ○ Negatively affected ● Indirectly Affected Stakeholders <ul style="list-style-type: none"> ○ Beneficiaries ○ Negatively affected ● Responsible Stakeholders <ul style="list-style-type: none"> ○ Implementers (proponent and responsible government departments/structures) ○ Government decision makers ○ Representative ● Involved by not essential <ul style="list-style-type: none"> ○ Government decision makers ○ Representative ● Non-essential stakeholders <ul style="list-style-type: none"> ○ Nice to have stakeholders – supportive or can provide assistance ○ Interested stakeholders – concerned but not personally affected <p>2.b.i.7. The participating operator provides objective evidence describing the types of stakeholders consulted, and that consensus among stakeholders was sought in accordance with the RSB Impact Assessment Guidelines (RSB-GUI-01-002-01). If unanimous support for the project from affected stakeholders was not achieved, then a Stakeholder Engagement Report has been developed following the RSB Impact Assessment Guidelines, indicating:</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><u>2. Planning, Monitoring and Continuous Improvement</u> Sustainable biofuel operations shall be planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis. (continued)</p>	<p><i>opinions should be noted in the stakeholder engagement report for the auditor to assess and view. If such agreement is established, the auditor may consider the project in compliance with Criterion 2b.</i></p> <ul style="list-style-type: none"> <i>The auditor may decide based on documents submitted for certification, whether any dissension among stakeholders is significant and/or contravenes the RSB standard.</i> 	<ul style="list-style-type: none"> the extent of stakeholder agreement and/or opposition; the types of stakeholders opposed to the project and reasons; whether any aspects of the project contravene any of the RSB principles; if the overwhelming majority of affected stakeholders support the proposal <p>2.b.i.8. The participating operator provides objective evidence demonstrating that management documentation including all documentation related to the impact assessment and ESMP were publicly available, except where this is prevented by commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes.</p> <p>2.b.i.9. Stakeholders affected by the biomass/biofuels operation(s) of the participating operator confirm that management documentation including all documentation related to the impact assessment and ESMP of the participating operator was available and accessible.</p>
	<p><u>11. Technology</u> The use of technologies in biofuel operations shall seek to maximize production</p>	<p>11.a Information on the use of technologies in biofuel operations shall be fully available, unless limited by national law or international agreements on intellectual property.</p>	<p>11.a.i.1. The participating operator provides documented evidence demonstrating that information on the use of technologies in her/his/its biomass/biofuels</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p>efficiency and social and environmental performance, and minimize the risk of damages to the environment and people.</p> <p><u>General guidance</u></p> <ul style="list-style-type: none"> <i>The purpose of this principle is to address the use of technologies in biofuel production that might pose a risk to people or the environment.</i> <i>In the specific case of chemicals, guidance may be found in the Overarching Policy Strategy established within the Strategic Approach to International Chemicals Management (SAICM)</i> <i>The RSB makes no recommendation regarding the use of specific technologies, but requires that the use of technologies along the value chain improve production efficiency and exhibit social and environmental benefits,</i> 	<p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processors and Biofuel Producers.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> When complying with and auditing against this criterion, proprietary technology shall be protected from competitors and intellectual property rights shall be respected The Participating Operator shall disclose technologies with hazardous or potentially hazardous effects when such technology is used, and make this information available to the public upon request. <p><u>Guidance on Criterion 11.a</u> <i>In order to demonstrate compliance with this criterion Participating Operators should list technologies in use with hazardous or unknown effect.</i></p> <p><i>The categories of potentially hazardous technologies to be considered are:</i></p> <p>1) <i>Feedstock production:</i></p> <ul style="list-style-type: none"> <i>Heavy machines and vehicles (production and transport)</i> <i>Specific crops (e.g. potentially invasive species, GMOs)</i> <i>Biological agents (e.g. mycorrhiza,</i> 	<p>operation(s) is publicly available (except for information which is protected by national law or international agreements on intellectual property).</p> <p>11.a.i.2. The participating operator provides documented evidence demonstrating that disclosure of information includes at minimum the actual or potential risks identified, and any actual or potential impacts on human health and the environment.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><i>while minimizing the risk of damages to the environment and people.</i></p> <ul style="list-style-type: none"> • <i>The continuous improvement of production efficiency and/or environmental and/or social performance is expected up to the point after which it would impact long-term economic viability of the project.</i> 	<p><i>nitrogen fixing plants)</i></p> <ul style="list-style-type: none"> • <i>Chemicals (fertilizers, pesticides, herbicides)</i> • <i>Water harvesting, withdrawal and distribution (e.g. irrigation)</i> <p>2) <i>Feedstock processing, biofuel production and biofuel blending:</i></p> <ul style="list-style-type: none"> • <i>Technologies for storage, transfer, processing and disposal of raw material, chemical ingredients, final products, by-products, co-products and wastes.</i> • <i>Chemicals used for feedstock processing, biofuel production and blending.</i> • <i>Biological agents used for feedstock processing, biofuel production and blending.</i> • <i>Heavy machines and vehicles (production and transport).</i> <p>[Also relevant to aspect(s)/issue(s): 3.1 Compliance.]</p>	
	<p>12. <u>Land Rights</u> Biofuel operations shall respect land rights and land use rights.</p> <p>See general guidance for Principle 12</p>	<p>12.b Free, Prior, and Informed Consent shall form the basis for all negotiated agreements for any compensation, acquisition, or voluntary relinquishment of rights by land users or owners for biofuel operations.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor, Biofuel Producer.</p>	<p>12.b.i.1. The participating operator provides objective evidence that all decisions regarding land rights and land use rights related to her/his/its biomass/biofuels operation(s) were and are based on the Free, Prior, and Informed Consent of all stakeholders involved, following the guidance in the Impact Assessment Guidelines (RSB-GUI-01-</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p><u>12. Land Rights</u> Biofuel operations shall respect land rights and land use rights. (continued)</p>	<p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • No involuntary resettlement shall be allowed for biofuel operations. • The Impact Assessment Guidelines (RSB-GUI-01-002-01) shall be referred to for guidance on Free Prior and Informed Consent. • Where land rights and land use rights are voluntarily relinquished and/or acquired on a willing seller-willing buyer basis, local people shall be fairly, equitably and timely compensated. • Compensation for voluntary relinquishment and/or acquisition shall include appropriate balancing measures needed to preserve the ability of the persons concerned to sustain their livelihoods in an autonomous and dignified manner. • Independent, qualified land valuation specialists shall be used for valuing all land and asset values. • Where land is to be sold it shall be done on a willing-seller/willing-buyer basis. • Coercion to alter existing land rights or land use rights shall not be allowed, in biofuel operations • Where the rule of law is not adequately applied, international and regional legal bodies shall be consulted for rulings and 	<p>002-01).</p> <p>12.b.i.2. Stakeholders confirm that they had unrestricted access to independent legal, economic, social, environmental and/or cultural advice in support of their Free, Prior, and Informed Consent to decisions regarding land rights and land use rights related to the biomass/biofuels operation(s) of the participating operator.</p> <p>12.b.i.3. The participating operator provides objective evidence demonstrating that there has been no forced or involuntary resettlement or relinquishment of land rights for the purpose of her/his/its biomass/biofuels operation(s).</p> <p>12.b.i.4. The participating operator provides objective evidence demonstrating that valuing all land and asset values is done by qualified land valuation specialists and that all selling or buying of land by the participating operator is done on a willing-seller/willing-buyer basis (i.e. based on Free, Prior, and Informed Consent).</p> <p>12.b.i.5. Stakeholders confirm that all relinquishment(s) of land rights and/or land use rights related to the</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p>	<p>12. Land Rights Biofuel operations shall respect land rights and land use rights. (continued)</p>	<p>information on disputes.</p> <ul style="list-style-type: none"> • Biofuel operations shall provide for independent legal advice for communities who do not have the resources to represent their own interests in disputes. • If there are disputes about the tenure agreements of the land among stakeholders, biofuel operations shall not be approved. <p><u>Guidance on Criterion 12.b</u></p> <ul style="list-style-type: none"> • <i>The World Bank Operational Policy on Involuntary Resettlement Complaints (OP4.12) should be used for determining the basis for compensation if resettlement is required.</i> • <i>RSB Stakeholder Engagement Process described in the Impact Assessment Guidelines (RSB-GUI-01-002-01) described under Principle 2 should define the process that is to be carried out for identifying stakeholders, for reaching negotiated agreements, and for dealing with land rights and land use right disputes.</i> • <i>Compensation practices as defined by the World Bank and FAO shall be the reference for internationally-accepted standards.</i> <p>[Also relevant to aspect(s)/issue(s): 2.1 Land tenure/access and displacement.]</p>	<p>biomass/biofuels operation(s) of the participating operator was/were fairly, equitably and timely compensated.</p> <p>12.b.i.6. Stakeholders confirm that no coercion to alter existing land rights or land use rights related to the biomass/biofuels operation(s) of the participating operator took place.</p> <p>12.b.i.7. The participating operator provides objective evidence demonstrating that no land rights and/or land use rights disputes related to her/his/its biomass/biofuels operation(s) are pending unresolved.</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
4. FOOD SECURITY			
<p>4.5 Food security (cross-cutting)</p> <p>Back to table of contents</p>	<p><u>6. Local Food Security</u> Biofuel production shall ensure the right to adequate food and improve food security in food insecure regions</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> • <i>The RSB Food Security Assessment Guidelines (RSB-GUI-01-006-01) provide details on how to do food security assessments and provide strategies for food security mitigation measures and enhancement.</i> • <i>This principle primarily addresses local impacts of biofuel production on the food insecure and those vulnerable to food insecurity. These impacts can be at a farm level and also within communities or even regions where goods are exchanged locally.</i> 	<p>6.a Biofuel operations shall assess risks to food security in the region and locality and shall mitigate any negative impacts that result from biofuel operations.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • Where the screening exercise of the RSB impact assessment process reveals a direct impact on food security in food insecure regions, Participating Operators shall conduct a food security assessment in accordance with the RSB Food Security Assessment Guidelines (RSB-GUI-01-006-01). • The scope of the impact assessment shall include additional impacts that the biofuel operations may have on cross-cutting requirements for food security including land, water, labor, and infrastructure • If the food security assessment indicates a food security risk as a result of biofuel operations, a mitigation plan shall be developed and implemented through the ESMP. • Measures developed under Principle 5 that mitigate food insecurity shall be integrated 	<p>6.a.i.1. The participating operator provides objective evidence demonstrating whether the biomass/biofuels operation(s) is/are in a region which is at risk of food insecurity, in accordance with the RSB screening exercise.</p> <p>In regions where food security has been identified as a risk during the RSB screening exercise:</p> <p>6.a.i.2. The participating operator provides objective evidence demonstrating that an assessment of the status of food security in the region has been undertaken including the assessment of access, availability, stability and utilization of food.</p> <p>6.a.i.3. The participating operator provides objective evidence demonstrating that the methodology used for assessment of the status of food security in the region provides results equivalent to the RSB Food Security Assessment Guidelines (RSB-GUI-006-01).</p> <p>6.a.i.4. The participating operator provides objective evidence demonstrating that an assessment of the impacts of her/his/its biomass/biofuels operation(s)</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>4.5 Food security (cross-cutting)</p> <p>Back to table of contents</p>	<p>6. <u>Local Food Security</u> Biofuel production shall ensure the right to adequate food and improve food security in food insecure regions (continued)</p>	<p>with the measures developed under Criterion 6a.</p> <p><u>Guidance on Criterion 6.a</u></p> <ul style="list-style-type: none"> • <i>During the screening exercise it will be determined if the Participating Operator is in a region of food insecurity.</i> • <i>During the scoping exercise the Participating Operator will determine the extent of the study required to maintain and enhance food security.</i> • <i>The Food Security Assessment Guideline (RSB-GUI-01-006-01) assess how each of the four pillars of food security as defined by FAO (accessibility, availability, utilization and stability) is negatively or positively impacted by the biofuel operations. Access impacts should be assessed in terms of the local people's ability to purchase food and will reflect any local pricing changes as a result of the biofuels operations. Availability of food may be negatively impacted if, for instance, food and/or animal feed is removed from the local area/region as a result of the biofuel operations. The impacts on utilization should be assessed based on the ability of local people to utilize the available food due to changes in availability of cooking fuels. For instance, biofuel co-products may be usable as local energy sources and thus</i> 	<p>on food security in the region in accordance with the RSB Food Security Assessment Guidelines (RSB-GUI-006-01) was carried out, including an assessment of potential positive and negative impacts and impacts on local economic development.</p> <p>6.a.i.5. The participating operator provides objective evidence demonstrating that in cases where her/his/its biomass/biofuels operation(s) actually or possibly result in negative impact(s) on food security in the region, the corresponding management plan has been adapted to mitigate such negative impacts.</p> <p>6.a.i.6. The participating operator provides objective evidence demonstrating that the implementation of the relevant management plan ensures that impacts on food security are minimized and mitigated, and that access, availability, stability and utilization of food at the local level do not decrease as a result of her/his/its biomass/biofuels operation(s).</p>

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>4.5 Food security (cross-cutting)</p> <p>Back to table of contents</p>	<p>6. Local Food Security Biofuel production shall ensure the right to adequate food and improve food security in food insecure regions (continued)</p>	<p><i>improve people's ability to cook food, or they may remove energy sources (e.g. wood residues) from the region and decrease utilization. Stability impacts will be assessed by analyzing the impacts the biofuel operations may have over a longer time period based on periodic weather events or potential shocks the region may suffer that are of a reasonably predictable nature based on historical events.</i></p> <ul style="list-style-type: none"> • <i>Both access and availability might also be positively affected if the biofuel operation provides an increase in production of staple foods preferred by local people. The impacts on utilization shall be assessed based on the ability of local people to utilize the available food due to changes in availability of cooking fuels. For instance, biofuel co-products may be usable as local energy sources and thus improve people's ability to cook food, or they may remove energy sources (e.g. wood residues) from the region and decrease utilization. Stability impacts will be assessed by analyzing the impacts the biofuel operations may have over a longer time period based on periodic weather events or potential shocks the region may suffer that are of a reasonably predictable nature based on historical events.</i> 	
		6.b In food insecure regions, biofuel operations	Criterion 6.b and the corresponding indicators

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
<p>4.5 Food security (cross-cutting)</p> <p>Back to table of contents</p>	<p>6. <u>Local Food Security</u> Biofuel production shall ensure the right to adequate food and improve food security in food insecure regions (continued)</p>	<p>shall enhance the local food security of the directly affected stakeholders.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor, and Biofuel Producer.</p> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> • In regions where food security is an ongoing risk and concern, operations shall enhance food security of the locally affected community by, for instance, setting aside land for food growing, increasing yields, providing opportunities for workers to carry out household-level food production, sponsoring agricultural support programs and activities, and/or making value-added food byproducts available to the local market. • Measures to enhance regional food security shall be integrated with measures that contribute to rural and social development developed under Principle 5. 	<p>6.b.i.1., 6.b.i.2. and 6.b.i.3. apply only in food insecure regions.</p> <p>6.b.i.1. The participating operator provides objective evidence demonstrating that measures are implemented to enhance food security of directly affected stakeholders.</p> <p>6.b.i.2. The participating operator provides objective evidence demonstrating that the effectiveness of the measures to enhance food security of directly affected stakeholders is monitored.</p> <p>6.b.i.3. The participating operator maintains records of all activities designed to enhance local food security (as prescribed in indicator 6.b.i.1.) including the type of activity, number of people/organizations affected and monetary value of the implemented measures.</p> <p>Guidance-activities to enhance food security include but are not limited to:</p> <ul style="list-style-type: none"> • setting aside land for food growing, • increasing yields, • providing opportunities for workers to carry out household-level food production, • sponsoring agricultural support programs and

RSB PRINCIPLES & CRITERIA FOR SUSTAINABLE BIOFUEL PRODUCTION, VERSION 2.0³

ASPECTS/ISSUES	PRINCIPLES	CRITERIA	COMPLIANCE INDICATORS
			activities, and <ul style="list-style-type: none"> • making value-added food byproducts available to local markets.