

RSB Principles & Criteria for Sustainable Biofuel Production

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|---|--|------------------------------|---|
| Country/ Organization | Roundtable on Sustainable Biofuels (RSB) | Year and status | 2009 (Version One for pilot testing) |
| 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 for transportation | | |
| Link | http://cgse.epfl.ch/page84341.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 testing².

The RSB Standard was built around the following twelve principles:

¹ The information included in this section was excerpted and adapted directly from the RSB web-site: <http://cgse.epfl.ch/page84341.html>

² During 2010 the RSB will pilot test the Standard through different supply chains in different regions of the world, and changes will be proposed as to how to improve the RSB Standard based on lessons learnt from this pilot test. In 2010 the RSB will become a fully operational biofuel certification standard.

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 One of the RSB Standard address only the direct activities that farmers and producers can undertake to prevent unintended consequences from biofuel production. As of December 2009, work had started to further integrate the issue of indirect impacts in the RSB Standard.

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. 2010. *A Compilation of Bioenergy Sustainability Initiatives*. Rome: Food and Agriculture Organization of the UN (FAO).

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

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³ Please note that due to the lack of cross-references (see footnote 4) 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.

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| ASPECTS/ISSUES | PRINCIPLES | CRITERIA | COMPLIANCE INDICATORS |
|---|---|---|---|
| 1. ENVIRONMENTAL | | | |
| <p>1.2 Biodiversity and ecosystem services</p> <p>Back to table of contents</p> | <p>7. Conservation Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and other 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</i> | <p>7.a Conservation values within the potential or existing area of operations shall be identified through a land-use planning process. 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"> 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. Biofuel operations shall occur in priority on areas with the lowest possible risk of impacts on people and the environment. Biofuel operations shall only happen on higher risk areas under limited conditions, which ensure that their conservation value(s) is/are maintained or enhanced. Areas identified as “no-go areas” shall not be used for biofuel operations after the 1st of | <p>7.a.i1 The Operator has implemented a Land Use Planning Process to guide the identification of conservation values of global, regional or local importance, which is used for site selection (for projects established after 1 January 2009) and management of conservation values within existing operations, as per the ESIA guidelines, or an appropriate existing national or regional framework which provides equivalent information (e.g. a high conservation value toolkit).</p> <p>7.a.i.2 Records of the Land Use Planning Process are available and include:</p> <ul style="list-style-type: none"> Publicly available map databases, used to identify and avoid existing protected areas and other features of high conservation value National/regional consultation with relevant experts and institutions to identify areas recognized for their conservation priority at national/regional scale Consultation with local stakeholders to identify conservation values of local importance. For new projects, site level mapping, including |

⁴ 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.

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| <p>1.2 Biodiversity and ecosystem services (continued)</p> <p>Back to table of contents</p> | <p><i>potential area for biofuel production, these have to 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> | <p>January 2009, unless feedstock production or processing operations are legally authorised as part of the conservation management for the area concerned.</p> <ul style="list-style-type: none"> • Pursuant to land-use impact assessment, areas that contain identified conservation values of global, regional or local importance, such as natural habitats, or that serve to maintain or enhance such conservation values (e.g. natural buffer zones) shall not be converted after the 1st of January 2009. • Such areas shall only be used if adequate management practices maintain or enhance the identified conversation values (e.g. sustainable biomass harvesting). • In case of new operations, conversion or use of areas shall not occur prior to the land use impact assessment. • Hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species shall not occur on the operation site. | <p>delineation of areas to be planted and areas to be set aside for biodiversity protection, environmental service provision or traditional/community use</p> <ul style="list-style-type: none"> • For existing projects, site level mapping, including delineation of areas to be maintained or restored for biodiversity protection, environmental service provision or traditional/community use • Description of conservation values of global, regional or local importance identified within the area, including those existing within or across the wider landscape. <p>7.a.i3 The written summary of screening, landscape assessment and site selection (where applicable) is made available in the public domain, to facilitate the regional mapping/identification of HCVs,c KBAs, etc.</p> <p>7.a.i4 There is documented evidence (including maps) to demonstrate that no operations have taken place or are planned within nationally protected areas,</p> |

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| <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 other conservation value areas. (continued)</p> | <p><u>Guidance on Criterion 7.a</u></p> <ul style="list-style-type: none"> • <i>Natural ecosystems function as complete and intact natural ecological communities, and support numerous species, essential ecological processes and 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. Examples of conservation values of local, regional or global importance include, but are not limited to:</i> <ol style="list-style-type: none"> 1. <i>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> 2. <i>Pristine ecosystems</i> 3. <i>The presence of viable populations of natural species in natural pattern of distribution and abundance, i.e. natural</i> | <p>UNESCO world heritage sites, RAMSAR sites, or Alliance for Zero Extinction sites after 1 January 2009.</p> <p>7.a.i5 There is documented evidence (including maps) to demonstrate that areas including conservation values of global, regional or local importance have not been converted after 1 January 2009.</p> <p>7.a.i6 If conservation values of global, regional or local importance are identified in and around the potential or existing area of operations, specific measures are included in the ESMP to maintain or enhance these conservation values, including appropriate consideration of the wider landscape context.</p> <p><u>Guidance for 7.a.i6:</u> These measures include as appropriate: sustainable harvesting of the biomass existing on the site (e.g. thinning, mowing), the creation of conservation set aside zones, buffer zones, multiple use zones, controls on access and product removals, and specifically the control of hunting, fishing,</p> |

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| <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 other conservation value areas. (continued)</p> | <p><i>ecosystems, with a limited influence from human activities.</i></p> <p>4. <i>An important stock of Carbon under solid, liquid or gaseous forms, such as, but not 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 land-use impact assessment is a</i> | <p>ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species.</p> <p>7.a.i7 The Operator identifies and prioritizes use of areas which have the lowest risk of impacts on people and the environment.</p> <p>7.a.i8 Monitoring to determine the effectiveness of the ESMP measures and the results of monitoring is implemented to inform future actions.</p> <p>7.a.i9 There is documented evidence to demonstrate that conservation values of global, regional or local importance recorded after the Land Use Planning Process are maintained or enhanced after the 1st January 2009.</p> <p>7.a.i10 Operator re-evaluates conservation values every three years following the process described under 7.a.i.2</p> |

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| <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 other conservation value areas. (continued)</p> | <p><i>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></p> <ol style="list-style-type: none"> <i>1) screening, i.e. review of publicly available data and maps (non small-scale operators only),</i> <i>2) landscape-level assessment, i.e. the consultation of national/regional experts and institutions,</i> <i>3) site-level mapping, i.e. a detailed site-level assessment and planning through the consultation of local communities, and</i> <i>4) responsible management, i.e. the implementation of responsible land management practices (e.g. conservation agriculture).</i> <ul style="list-style-type: none"> <i>• For existing projects, the operator shall demonstrate that these or equivalent steps were followed prior to the implementation of operations.</i> <i>• Ultimately, the land-use impact assessment allows determining “no go” areas, i.e. those</i> | |

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| <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 other conservation value areas. (continued)</p> | <p><i>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 of a legal conservation management plan.</i></p> <ul style="list-style-type: none"> • <i>The remaining areas are identified as “higher risk areas” or “lower risk areas” and may be used for biofuel production under specific management conditions, which ensure that they do not lose their existing conservation value(s).</i> • <i>The possibility to use higher risk areas shall 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 shall not lead to the loss of conservation values. In addition, a clear conservation benefit (e.g. increased habitat or mating areas for wildlife) or a social benefit (e.g. employment or improved</i> | |

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| <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 other conservation value areas. (continued)</p> | <p><i>livelihood) is requested.</i></p> <ul style="list-style-type: none"> <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) shall be respected whenever relevant for the feedstock or country of concern, including but 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). Should stakeholders target compliance with the US Renewable Fuel Standard or the EU Renewable Energy Directive, respective cut-off dates shall be used; these are 19th December 2007 (US-RFS) and January 2008 (EU-RED).</i> <p>[Also relevant to aspect(s)/issue(s): 1.1 Land-use change (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> | |

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| <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 other 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"> • Following the land-use impact assessment (7a), Operators shall implement a management plan and practices that maintain ecosystem functions and services both inside and outside the operation 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 and ensuring those are maintained.</i> • <i>Specific ecosystem functions and services relevant to an area of production shall be</i> | <p>7.b.i1 As part of the Land Use Planning Process or any equivalent process, ecosystem services and functions that are or may be directly affected by biofuel production are identified and recorded.</p> <p>7.b.i2 Specific measures are included in the ESMP to maintain the ecosystem functions that are directly affected by biofuel production. <u>Guidance for 7.b.i2:</u> These measures may include: 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>7.b.i3 The Operator undertakes monitoring to determine the effectiveness of these measures and the results of monitoring are used to inform future actions.</p> <p>7.b.i4 Specific measures are included in the ESMP to maintain these ecosystem services</p> |

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| <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 other conservation value areas. (continued)</p> | <p><i>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 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 shall monitor these ecosystem services and functions and ensure they are maintained.</i> <p><u>Reference documents to be used for Criterion 7.b</u></p> | <p>7.b.i5 Monitoring is carried out to determine the effectiveness of these measures and the results of monitoring are used to inform future actions. <u>Guidance for 7.b.i5</u> These measures include:</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 vegetation, and the maintenance of natural vegetation in important water catchments, especially steep slopes. • 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 |

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| <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 other conservation value areas. (continued)</p> | <p>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>to their livelihoods.</p> <p>7.b.i6</p> <ul style="list-style-type: none"> • There is documented evidence that ecosystem functions and services directly affected by biofuel production (and identified through the Land Use Planning Process) have been maintained or enhanced since 1 January 2009. <p>7.b.i7</p> <ul style="list-style-type: none"> • The Operator re-evaluates ecosystem functions and services directly affected by biofuel production every three years, following the process described under 7.a.i.2. |
| | | <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. • Within the operation site, buffer zones shall be protected, restored or created to avoid negative impacts from the biofuel operations | <p>7.c.i1 Buffer zones are created or maintained within the production sites around water courses, remaining areas of natural vegetation, areas set aside for conservation purposes, high conservation value areas, other protected areas and at the interface between the operations and the surrounding areas.</p> <p>7.c.i.2 Buffer zones are designed according to the activities implemented for biofuel production, potential water recycling, and the type of areas they surround.</p> <p>7.c.i3</p> |

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| <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 other conservation value areas. (continued)</p> | <p>on water courses, aquifers and any area that contains conservation value(s) of local, regional or global importance, and remain unused for biofuel operations.</p> <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.</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 impacts emerging from the production site reach the surrounding areas or water courses/tables located on the production site.</i> • <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>Whenever no buffer zones already exist between the production site and the surrounding areas, the operator shall create these buffer zones, for example, by leaving an adequate area of natural v vegetation land fallow at the hedge along the perimeter of the site.</i> | <p>Buffer zones are sufficient to prevent operations causing significant damage to areas within and outside of the production site.</p> <p><u>Guidance for 7.c.i3</u> Examples:</p> <ul style="list-style-type: none"> • Buffer should be sufficient to minimize ‘edge effects’ (such as microclimatic effects and human disturbance) in areas set aside for conservation, to the extent that these might degrade the conservation value of the area. • Buffer should be sufficient to ensure that soil run-off or the drift of chemical sprays is effectively prevented from entering streams and water courses. <p>7.c.i4 All buffer zones are effectively maintained and remain un-planted with biofuel crops; the vegetational composition of buffer zones may however be managed in order to contribute to the sustained supply of environmental goods and services, in line with their protective function.</p> |

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| <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 other conservation value areas. (continued)</p> | <ul style="list-style-type: none"> <i>The size, layout and quality features of the buffer zones to be created shall 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"> FAO Code of Practice for Forest Harvesting in Asia-Pacific (Section 5) <p>[Also relevant to aspect(s)/issue(s): 1.5 Water availability and quality.]</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"> Ecological corridors within the production site should be set-aside and protected with appropriate surrounding buffer zones and in no case exploited after the 1st of January 2009. | <p>7.d.i1 Where there is the risk that operations would have increased the fragmentation of natural ecosystems, the spatial layout is designed to minimize this fragmentation and maintain connectivity of ecosystems.</p> <p>7.d.i2 The design and spatial layout of conservation zones maximizes their contribution to the conservation of biodiversity, through the creation of corridors and the consolidation of natural areas as appropriate.</p> <p>7.d.i3 The Operator has identified and protected any fixed</p> |

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| <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 other conservation value areas. (continued)</p> | <ul style="list-style-type: none"> • 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 shall be restored. | <p>migration, commuting and reproductive corridors occurring naturally within the operational site.</p> <p>7.d.i4 The Operator does not exploit conservation zones for agricultural production.</p> <p>7.d.i5 The Operator has defined and implemented specific management activities designed to protect or enhance biodiversity within these conservation zones. Progress requirements (Medium and large Operators only)</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.</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 shall be consulted. If not the case, the four-step land-use planning process (see 7a) shall allow the</i> | <p>7.d.i6 Where the operations are surrounded by natural vegetation, specific measures are implemented to establish conservation zones that reduce the effects of fragmentation and promote the movement of wildlife outside the production site.</p> <p>7.d.i7 Where the Operator was directly responsible for the removal of natural vegetation, between 1st of January 2004 and the 31st December 2009, and this removal has increased fragmentation of natural ecosystems, specific measures are implemented to restore this natural vegetation and its ecological function (connectivity).</p> |

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| <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 other conservation value areas. (continued)</p> | <p><i>operator to identify any potential ecological corridor on and around the production site.</i></p> <ul style="list-style-type: none"> <i>When ecological corridors exist on the production site they shall 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 shall 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>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"> 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, Operators shall seek adequate information | <p>7.e.i1 There is evidence that no crops officially prohibited at national or regional level, because of high risk for invasiveness or recorded as highly invasive under similar conditions (similar climate, and similar local ecosystems, and similar soil types) are used commercially by the Operator.</p> <p><u>Where a crop has not been historically cultivated at a large scale in the area of operation:</u></p> <p>7.e.i2 There is documentary evidence that the Operator has sought adequate information about the</p> |

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| <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 other conservation value areas. (continued)</p> | <p>about the invasiveness of the species to be used for feedstock production, e.g. in the Global Invasive Species Database (GISD).</p> <ul style="list-style-type: none"> • 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), Operators shall follow the specific steps: <ol style="list-style-type: none"> 1) During the feedstock selection and development, Operators shall conduct a Weed Risk Assessment (WRA) 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. 2) During the potential importation of crops, Operators shall comply with all related national regulations, including the gain of an official approval or a suitable import certificate. 3) During feedstock production, Operators | <p>invasiveness of the species to be used for feedstock production, e.g. in the Global Invasive Species Database (GISD).</p> <p>7.e.i3. Where the species has not been recorded as representing a high risk of invasiveness under similar conditions (climate, local ecosystems, soil type), the Operator a Weed Risk Assessment (WRA) has been carried out determining the extent to which the crop poses a high risk of invasiveness in the local context.</p> <p>7.e.i4 There is evidence that no crops identified in the WRA as a high risk of invasiveness under local conditions, are used commercially by the Operator.</p> <p>7.e.i5 The Operator is implementing the IUCN Guidelines on Biofuels and Invasive Species or any equivalent national guideline that exists in the country of operation</p> <p>7.e.i6 The ESMP includes cultivation practices that minimize the risks of invasion, immediate</p> |

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| <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 other conservation value areas. (continued)</p> | <p>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>4) During harvesting, processing, transport and trade, Operators shall contain propagules in an appropriate manner on site and during transport.</p> | <p>mitigation actions (eradication, containment or management) in case of escape of a plant species outside the production site.</p> <p>7.e.i7 The Operator contain propagules in an appropriate manner during harvesting and processing, on site and during transport.</p> <p>7.e.i8 Monitoring is carried out to detect any un-wanted spread of commercial crops. This monitoring informs a control program that ensures prompt and effective action is taken to eliminate the species from sites where it may regenerate.</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> | <p>7.e.i9 When importing planting material or biological material for processing, the Operator complies with all related national regulations, including official approval or import certificates required.</p> <p>7.e.i10 For projects established after 1 January 2009, the Operator has cultivated indigenous or naturalized crops, where exotic crops have a lower yield and environmental and/or social performance compared</p> |

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| <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 other conservation value areas. (continued)</p> | <ul style="list-style-type: none"> • <i>In the case a species is prohibited because of 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> • <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>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 • Weed Risk Assessment for Hawaii and Pacific Islands Process | <p>to indigenous or naturalized crops.</p> |

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| <p>1.3 Productive capacity of land</p> <p>Back to table of contents</p> | <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 shall be determined during the Scoping Exercise or the Environmental and Social Impact Assessment and Soil Specialist Guideline described under Principle 2.</i> | <p>8.a Operators shall implement a soil management plan designed 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 (including, for example, crop rotation, direct planting, maintaining vegetative ground cover, and maintaining or creating tree hedges) in order to enhance soil physical health on a watershed scale.</p> <ul style="list-style-type: none"> None of the chemicals recorded in the WHO's 1a and 1b lists shall be used. (see also Principle 11). 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. <p><u>For medium and large feedstock producers:</u></p> <ul style="list-style-type: none"> A soil management plan shall be | <p><u>For non small-scale Operators:</u></p> <p>8.a.i1 The Operator has adequate Information on the physical, chemical and biological properties of the soils in and around the production area (from ESIA or other source).</p> <p>8.a.i2 The Operator has a plan for managing soils, as part of the ESMP, adapted to the local context (i.e. rainfall, water availability, etc.) and to the scale and intensity of operations, which includes measures to minimize soil compaction and erosion and to maintain or improve levels of soil organic matter and nutrients.</p> <p>8.a.i3 The Operator has procedures for all activities which impact on soils (e.g. site preparation, harvesting), based on best practice approaches for soil management (see Annex for more details).</p> <p>8.a.i4 Plans and procedures are fully implemented in the field through the design of the plantation or the production site and sustainable practices (including, for example, crop rotation, direct planting, maintaining vegetative ground cover, terracing and maintaining or creating tree hedges).</p> |

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| <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>implemented that includes practices that prevent or reverse degradation over the long term.</p> <ul style="list-style-type: none"> • Periodic sampling of soil on the feedstock production site shall be performed to evaluate the effect of implemented practices on the organic matter content. Where such practices are not maintaining soil organic matter at the optimal level, alternative practices shall be investigated. <p><u>For small-scale Operators only</u></p> <ul style="list-style-type: none"> • Small scale operators shall implement practices aiming to maintain and enhance soil organic matter on the feedstock production site. <p><u>8.a.2 Progress requirements</u></p> <ul style="list-style-type: none"> • For annual crops, Operators shall implement measures to improve soil health, such as Conservation Agriculture practices as defined by the FAO, including but not limited to: <ol style="list-style-type: none"> a) Organic direct planting b) Permanent soil cover c) Crop rotation d) Fallow areas with natural or planted vegetation in order to recover natural fertility and interrupt pest life cycles | <p>The Operator provides evidence of the relevancy of the practices implemented to reach the objective of this criterion.</p> <p>8.a.i5 The Operator undertakes monitoring of soil organic matter at a scale and frequency that allows the results to inform operational planning.</p> <p>8.a.i6 Where there is deterioration in soil physical, chemical or biological properties, actions are taken to mitigate the cause.</p> <p>8.a.i7 Where agricultural or forestry residues are utilized for biofuel production, there is no evidence that this is resulting in deterioration in soil chemical or physical properties. <u>Progress requirements 8.a.i7</u> Non small-scale Operators cultivating annual crops implement Conservation Agriculture practices such as organic direct planting, permanent soil cover, crop rotation or other appropriate activities.</p> <p><u>For small-scale Operators:</u> 8.a.i8 Small-scale Operators demonstrate a general understanding of the soil erosion issues and organic</p> |

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| <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"> For perennial crops, none of the chemicals recorded in the WHO's 1a and 1b lists, in Annex III of the Rotterdam Convention and in the Stockholm Convention on POPs shall be used w within 3 years after certification (See full guidance on chemicals under principle 11). <p><u>Guidance of Criterion 8.a</u></p> <ul style="list-style-type: none"> <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. This optimal level is to be defined, as described in the ESIA required under Principle 2, through the consultation of local experts, taking into account crop specificities as well as local economic, climatic, geologic and ecologic conditions. Realistic targets shall be 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</i> | <p>matter content in the area of production, the influence of operations on these aspects and the practices ensuring their maintenance or enhancement.</p> <p>8.a.i9 Small-scale Operators undertake practices aiming to minimize erosion and compaction, and to maintain or improve soil organic matter are being implemented in the field.</p> |

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| <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><i>the objectives are fulfilled.</i></p> <ul style="list-style-type: none"> <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>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> <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; and 1.8 Waste management.]</p> | |

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| <p>1.4 Crop management and agrochemical use</p> <p>Back to table of contents</p> | <p><u>11. 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>See general guidance for Principle 11.</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 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. • 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 | <p>11.d.i1 There is no storage or use of any chemicals recorded in the WHO's 1a and 1b lists.</p> <p>11.d.i2 A plan is implemented to eliminate the use of chemicals listed in the Stockholm Convention or in Annex III of the Rotterdam Convention within three years following certification.</p> <p>11.d.i3 The Operator maintains complete and up to date records of all chemical usage, including trade name, active ingredient, quantity of active ingredient used, date of use, location of use, personnel involved in preparation and application, equipment used, weather conditions and justification for use.</p> <p>11.d.i4 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.i5 Manufacturer's safety instructions for the storage, handling, use and disposal of chemicals are followed.</p> <p>11.d.i6</p> |

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| <p>1.4 Crop management and agrochemical use (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>of the Rotterdam Convention or in the Stockholm Convention on Persistent Organic Pollutants shall be used within three years after certification.</p> | <p>Containers are stored in a manner that minimizes the risk of accidents and potential negative impacts on human health and on the environment.</p> <p>11.d.i7 Containers are washed using triple rinsing principles, and water and containers are properly disposed of in an environmentally appropriate way.</p> <p>11.d.i8 Chemicals are disposed, recycled or destroyed in a manner that minimizes the risk of accidents and potential negative impacts on human health and on the environment.</p> <p>11.d.i9 Transportation of chemicals to and within the operations includes measures to reduce the risk of accidents or spills and applicable health, environmental and safety precautions are implemented. (e.g. safely transported using appropriate equipment).</p> <p>11.d.i10 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.i11</u> There is no storage or use of any chemicals listed in the Stockholm Convention or Annex III of the Rotterdam Convention after 3 years of certification.</p> |

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| <p>1.5 Water availability and quality</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.</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> Feedstock producers, feedstock processors, biofuel producers</p> <p><u>9.b.1 Minimum requirements</u></p> <ul style="list-style-type: none"> • 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 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> | <p><u>For non small-scale Operators:</u></p> <p>9.b.i1 The Operator has adequate Information on the physical, chemical and biological properties of the water resources in and around the production area (from ESIA or other source).</p> <p>9.b.i2 The Operator has a water management plan (or equivalent documentation), adapted to the local context (i.e. rainfall, water availability, etc.), and adapted to the scale and intensity of the operation which is consistent with any regional or local water management plans and reviewed at least annually.</p> <p>9.b.i3 The water management plan:</p> <ol style="list-style-type: none"> a. Identifies 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. b. Includes 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. c. Includes an estimate of potential runoff nature and volumes through the production chain and |

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| <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> | <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> • <i>The water management plan required under 9.b.1 shall:</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> | <p>the natural compartment or collectors affected by these runoffs.</p> <ol style="list-style-type: none"> d. Includes measures to reduce water consumption and contamination at the most critical steps. e. Is publicly available <p>9.b.i4 Where the ESIA demonstrates that operations pose a risk of water depletion or water contamination, there has been consultation with local experts, affected local communities, relevant water use committees and/or any other relevant stakeholders on the volume and timing of planned water use, and, for non small-scale Operators, records of the outcomes of the consultations are available.</p> <p>9.b.i5 Where the ESIA demonstrates that operations pose a risk of water depletion, planned water use is based on the outcomes of a consultation process and designed to ensure that the operations do not contribute to exceeding the replenishment capacity of the water table(s), watercourse(s) or water tank(s) use for operations.</p> <p>9.b.i6: There is evidence that the water management plan (or equivalent) is fully implemented.</p> <p>9.b.i7: There is an annual monitoring program (which</p> |

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| <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> | <p><i>d. Include measures to reduce water consumption and contamination at the most critical steps.</i></p> <ul style="list-style-type: none"> <i>The water management plan shall 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 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>[Also relevant to aspect(s)/issue(s): 1.9 Environmental sustainability (cross-cutting); and 3.2 Participation and transparency.]</p> | <p>forms part of the water management plan) including all steps where water withdrawal, discharge and runoffs occur.</p> <p>9.b.i8: The results of monitoring are analyzed and reviewed, and changes in water consumption and quality are measured to assess, with clear justification, the effectiveness of the water management plan. Where negative impacts are observed, mitigation plans developed and integrated into the water management plan.</p> <p><u>Progress requirements 9.b.i9</u> The Operator has implemented a water management plan which includes steps for reusing or recycling waste water, appropriate to the scale and intensity of production.</p> <p><u>Small-scale Operators:</u></p> <p>9.b.i10 Small-scale Operators demonstrate a general understanding of the water contamination and depletion issues in the area of production, the influence of operations on these aspects and the adapted monitoring and mitigation practices.</p> <p>9.b.i11 Small-scale Operators identify all steps where water withdrawal, discharge and potential runoff occur over the operation, and undertakes measures to reduce water consumption and contamination at the most critical steps.</p> |

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| <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>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. The replenishment capacity shall be evaluated through the Scoping exercise or the Environmental and Social Impact Assessment (water specialist guideline) outlined in Principle 2. • Based on the Scoping Exercise or the Environmental and Social Impact Assessment outlined in Principle 2 and the water management plan (9.b), the use and share of water resources (e.g. maximum volume to be annually withdrawn from the water table) for biofuel operations shall be defined in agreement with local experts and the community; any water user committees shall be consulted. • Irrigated biofuel crops and freshwater-intensive biofuel operation systems shall not be established in long-term freshwater-stressed areas, unless the implementation of: | <p>9.c.i1 The Operator demonstrates a general understanding of the replenishment capacity of any water body from which water is being taken, the influence of their operations on this capacity and the practices ensuring this capacity is not impaired.</p> <p>9.c.i2 There is no evidence that operations are contributing to exceed the replenishment capacity of the water table(s), water course(s) or water tank(s) used for operations.</p> <p>9.c.i3 The volume of water being used in operations does not exceed the planned volumes.</p> <p>9.c.i4 Use of water from natural water bodies does not result in any permanent change in the natural status of the water body.</p> <p><u>(Non small-scale Operators).</u></p> <p>9.c.i5 In areas where there is long-term water stress, the Operator does not use irrigation used unless it can be demonstrated that there is no negative impact on water levels.</p> <p>9.c.i6 In areas which become water-stressed after</p> |

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| <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>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.</p> <ul style="list-style-type: none"> • 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><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>To ensure a sustainable use of water resources, the amount of water withdrawn from a given source shall not create a negative water balance for this source.</i> • <i>In the case where an aquifer or a water course is used by many operators, the contribution of biofuel operations to the overall impacts shall be assessed by the auditor in charge of certification.</i> | <p>certification, the Operator implements good practices which minimize the use of water.</p> <p><u>Progress requirement 9.c.i7</u> The Operator is implementing water saving practices and the water efficiency of operations is continuously improved.</p> |

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| <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>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. • Operators shall implement the best available practices which aim to maintain 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; this optimal level is to be defined, as part of the ESIA (PC2), through the consultation of local experts, communities and producers, taking into account local economic, climatic, hydrologic and ecologic conditions. • 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 | <p>9.d.i1 The Operator has identified all risks the operations pose to potential contamination of water (physical, chemical or biological).</p> <p>9.d.i2 Biofuels are not being produced or processed in critical aquifer recharge areas without official authorization from relevant authorities.</p> <p>9.d.i3. The Operator takes adequate precautions to contain effluents and avoid runoffs and contamination of surface and ground water resources, in particular from chemicals and biological agents.</p> <p>9.d.i4 There is no conclusive evidence that operations are contributing to contamination of the water table(s), water course(s) or water tank(s) used for operations.</p> <p><u>Progress requirement 9.d.i5</u> Where water degradation occurred prior to certification, the Operator is undertaking measures to reverse the impacts on water quality caused by their operations.</p> <p><u>Progress requirement 9.d.i6</u> The Operator ensures that any wastewater or runoff that may contain organic or mineral contaminants which have the potential to have negative impacts</p> |

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| <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>operation site and surface or ground water resources.</p> <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, Operators (except small-scale Operators) shall participate in projects that aim to improve water quality at a watershed scale. • 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). • None of the chemicals recorded in the WHO's 1a and 1b lists, in Annex III of the Rotterdam Convention or in the Stockholm Convention on POPs shall be used within 3 years after certification (See full guidance on chemicals under principle 11). <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>The quality of surface and ground water resources is described by their physical, chemical and biological parameters.</i> | <p>on humans, wildlife and natural ecosystems is treated.</p> |

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| 1.5 Water availability and quality (continued) | <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>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></p> <ul style="list-style-type: none"> • <i>Operators are expected to contribute to enhance the quality of water resources whenever they are already degraded. When 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> • <i>Further guidance regarding waste management and use of chemicals are outlined in principle 11).</i> <p>[Also relevant to aspect(s)/issue(s): 1.8 Crop management and agrochemical use; and 1.7 Waste management.]</p> | |
| 1.6 GHG emissions Back to table of contents | <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</p> | <p>3.a.i1 The 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 Operator keeps records of documentation and</p> |

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| <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>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>[Also relevant to aspect(s)/issue(s): 3.1 Compliance.]</p> | <p>evidence to support the calculations and the data used or provided.</p> <p>3.a.i3 The lifecycle GHG emissions of the biofuel meet the minimum required GHG reductions of the regulation, for the part of the value chain which the Operator is responsible.</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,</p> | <p>3.b.i1 The Operator has either (a) conducted all required calculations using the RSB calculation methodology OR the RSB-listed methodology that are applicable to her/his operations, OR (b) provided all necessary input data to the party that performs the GHG calculations.</p> <p>3.b.i2. The Operator keeps records of documentation and evidence to support the calculations and the data used in the calculations for the RSB calculation methodology OR the RSB-listed methodology</p> <p>3.b.i3. IF the Operator used a GHG calculation other than the RSB methodology: The methodology chosen</p> |

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| <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>Biofuel Producer, and Biofuel Blender.</p> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> • The Operator shall report the lifecycle GHG emissions of the feedstock or biofuel using the RSB lifecycle GHG emission calculation methodology (“RSB methodology”) to be published in a separate RSB GHG Calculation Methodology document. • 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 Methodology document. • Instead of reporting GHG emissions using RSB default values, an Operator may use the RSB calculations to determine more accurate GHG emissions (“calculated values”). • When calculated values show better performance than RSB default values, the Operator shall provide, when requested, the qualitative or quantitative data upon which the calculated values are based. | <p>by the Operator is in the list of RSB-listed methodologies.</p> <p>3.b.i4. IF the Operator used a GHG calculation other than the RSB methodology: The same methodology has been used for the entire supply chain of the biofuel up to the point where the Operator took ownership or possession.</p> <p>3.b.i5. IF the Operator used calculated values: The Operator keeps records of documentation and evidence to support the calculations and the data used in the calculations.</p> <p>3.b.i6 The Operator has reported the results of 3.b.i1 and 3.b.i5 to RSB.</p> <p>3.b.i7 The Operator can demonstrate that they are seeking to minimize GHG emissions in the operations.</p> <p>3.b.i8 The operations meet the GHG intensity requirements, as set out in the appropriate guidance</p> |

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| <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>Guidance on Criterion 3.b</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 EMPA methodology, “LIFE CYCLE ASSESSMENT OF ENERGY PRODUCTS: ENVIRONMENTAL IMPACT ASSESSMENT OF BIOFUELS,” by Zah et al., EMPA, May 22, 2007.</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 methodology.</i> | <p>document.</p> |

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| <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>3.c Biofuel shall have lower lifecycle GHG emissions than the fossil fuel baseline and shall contribute to the minimization of overall GHG emissions.</p> <p><u>Operators who must comply:</u> Biofuel Blender.</p> <p><u>Minimum requirements:</u></p> <ul style="list-style-type: none"> • Lifecycle GHG emissions of biofuel, calculated following the methodology in Criterion 3b, shall meet a minimum reduction (the “minimum GHG emission reduction threshold”) below the applicable fossil fuel baseline; said threshold shall increase over time. • During the pilot test period, not to exceed 9 months, testing will be done against minimum GHG emission reduction thresholds set at 10%, 40% and 70%. • At the conclusion of the pilot test period, the initial minimum GHG emission reduction threshold shall be set such that it is significant and ambitious. <p><u>Guidance on Criterion 3.c</u></p> <ul style="list-style-type: none"> • <i>The fossil fuel baseline, determined using RSB calculations and indicated in the RSB methodology, encompasses a gasoline</i> | <p>3.c.i1 There is documented evidence that lifecycle GHG emissions of the biofuel, in gCO₂e/MJ-fuel, have been calculated using the RSB GHG calculations tool and methodology. Documentation includes printouts of the results of the RSB Tool.</p> <p>3.c.i2 For substitutes of gasoline fuel, the lifecycle GHG emissions of biofuel, in gCO₂e/MJ-fuel, are lower than the gasoline baseline by the minimum GHG emission reduction threshold stated in Criterion 3c. For substitutes of diesel fuel, the lifecycle GHG emissions of biofuel, in gCO₂e/MJ-fuel, are lower than the diesel baseline by the minimum GHG emission reduction threshold stated in Criterion 3c.</p> <p>Note: The gasoline baseline and the diesel baseline are stated in the RSB Methodology document in gCO₂e/MJ-fuel.</p> |

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| <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>baseline and a diesel fuel baseline.</i></p> <ul style="list-style-type: none"> • <i>The fossil fuel baseline is re-calculated periodically to reflect the changing carbon intensity of fossil fuels.</i> • <i>Biofuel GHG emissions shall be compared to the gasoline baseline for substitutes of gasoline and to the diesel fuel baseline for substitutes of diesel 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>The 9-month pilot test period alluded to in this Criterion is limited to testing the requirements under Criteria 3b and 3c and will involve performing GHG calculations for various biofuel pathways using the EMPA methodology. During the pilot test period, RSB will evaluate the relative feasibility of achieving 10%, 40%, and 70% minimum GHG emission reduction thresholds for various biofuel pathways.</i> • <i>The significant and ambitious minimum GHG emission reduction threshold will be determined based on the results obtained in</i> | |

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| <p>1.6 GHG emissions (continued)</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 pilot test period, as spelled out in the “Path forward on Principle 3” document (available on the RSB website).</i></p> <ul style="list-style-type: none"> <i>Biofuel that contributes to the minimization of 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>[Also relevant to aspect(s)/issue(s): 1.8 Waste management; and 4.1 Food availability.]</p> | |
| <p>1.7 Air quality</p> <p>Back to table of contents</p> | <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</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 producer, feedstock processor and biofuel producer.</p> | <p>10.a.i1 The Operator has identified and documented potential air pollutants and their source.</p> <p>10.a.i2 An emission control plan (or equivalent documentation), appropriate to the scale and intensity of production has been developed and implemented.</p> |

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| <p>1.7 Air quality (continued)</p> <p>Back to table of contents</p> | <p><i>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> | <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 operation shall be in place regarding major air pollutants including carbon oxides, nitrogen oxides, volatile 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 potentially air pollution sources and describes their nature (e.g. open burn, boiler stack). The plan shall describe any air pollution mitigation strategies that are employed, or else the rationale for not utilizing such strategies. <p><u>10.a.2 Progress requirements</u></p> <ul style="list-style-type: none"> • The 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> | <p>I0.a.i3 A monitoring program, appropriate to the scale and intensity of potential emissions, is fully implemented and the results of monitoring are analyzed and reviewed and, where negative impacts are observed, mitigation plans developed and integrated into the emission control plan.</p> <p><u>Progress requirement 10.a.i4</u> The Operator has investigated and implemented as far as possible any opportunities for implementing local BMP or BAT to reduce air pollution.</p> |

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| <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.</p> <p><u>Operators who must comply:</u> Feedstock Producers, Feedstock Processors and Biofuel Producers.</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>10.b.i1 If any open-air burning of agricultural wastes or by-products occurs, evidence is available that there is no viable alternative available or affordable in the local context.</p> <p>10.b.i2 If open-air burning occurs there is a plan to phase out burning within three years from certification, except in cases set out in the guidance.</p> <p>10.b.i3 Where burning is utilized, there is a fire management plan (or equivalent documentation), which include sensitization or training of staff (Non small-scale Operators only) and procedures, appropriate to the scale and intensity of burning, which comply with all legal requirements and are based on best practice to minimize the environmental, health and safety risks.</p> <p>10.b.i4 For large-scale Operators, keeps record of all burning, including any accidents or spread of fire outside the designated area. All such incidents are reviewed, mitigation approaches identified, and the fire management plan and procedures amended.</p> <p><u>Progress requirement 10.b.i5</u> The Operator is generating electricity and/or heat from burning or fermentation or other process of</p> |

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| 1.7 Air quality (continued) | <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>Situations where no viable alternative to open burning is available or affordable in the local context shall 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 shall 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>any wastes and by-products, appropriate to the scale and intensity of the operation. Such burning or fermentation or other process occurs in an appropriate infrastructure to minimize air pollution.</p> <p>10.b.i6 The Operator has undertaken all infrastructure improvements necessary to meet national minimum requirements for emissions of air pollutants.</p> <p><u>Progress requirement 10.b.i7</u> No open-air burning of agricultural residues and/or by-products is undertaken, except in cases set out in the guidance.</p> |
| 1.8 Waste management Back to table of contents | <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.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> Feedstock processors and biofuel producers.</p> | <p>11.e.i1 There is a waste and byproduct management plan such that wastes and byproducts are handled, recycled, destroyed and/or disposed of in appropriate containers to prevent any environmental contamination and damage to human health.</p> <p>11.e.i2</p> |

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| <p>1.8 Waste management (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><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 | <p>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.i3 Handling and disposal of wastes follows the manufacturer's recommendation and the country or regional (e.g. EU, ASEAN, ALENA) guidelines.</p> <p>11.e.i4 All staff and contractors involved with handling, storage, disposal or use of wastes and byproducts receive training in storage, handling, use, disposal and emergency procedures following accidental spillages.</p> <p>11.e.i5 Where appropriate, burning or fermentation of wastes and byproducts are used to produce gas, electricity or heat through appropriate license and within an appropriate facility.</p> <p>11.e.i6 Solid residues from burning of wastes or byproducts for electricity or heat generation (e.g. boiler) are disposed of according to national</p> |

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| <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></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. (continued)</p> | <p>and efficient processes for conversion of 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>[Also relevant to aspect(s)/issue(s): 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> | <p>regulations and such that soil and water conditions are not damaged.</p> <p>11.e.i7 The Operator has a strategy in place to develop the necessary infrastructures for safe burning of any wastes and by-products.</p> <p>11.e.i8 If burning, for projects established after 1 January 2009, the design of operations integrates the necessary infrastructure for safe burning of processing waste and by-products. (11.e.i7 does not apply)</p> <p><u>Progress requirement (For non small-scale Operators)</u></p> <p>11.e.i9 The Operator re-uses byproducts or wastes from the processing/production unit, or transfers them 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> |

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| <p>1.9 Environmental sustainability (cross-cutting)</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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis.</p> <p><u>General guidance</u></p> <ul style="list-style-type: none"> • <i>The RSB ESIA guidelines are based on internationally-recognized and best practice standards for ESIA and ensure the quality of the ESIA, RESA and/or ESMP.</i> • <i>The RSB ESIA guidelines have different requirements depending on the nature, intensity</i> | <p>2.a Biofuel operations shall undertake an Environmental and Social Impact Assessment (ESIA) 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 process to avoid duplication of efforts, but the higher and more comprehensive standard shall be applied. • Operators shall refer to and comply with the relevant aspects of the RSB ESIA guidelines and toolkits as determined by the scale and intensity of the operations. • 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 | <p>Note: Any reference to ESIA, RESA, ESIR, ESMP guidelines or studies refers to the RSB ESIA guidelines and its specialist studies and required reporting procedures against the RSB ESIA guidelines published on the RSB web site.</p> <p>2.a.i1 Baseline surveys have been completed in accordance with existing RSB guidelines on the social, economic and environmental principles and criteria, as per the ESIA guideline which and specifically cover, but are not limited to:</p> <ul style="list-style-type: none"> • Land use type as of 1 January 2009; • Current land use type; • Carbon in soil; socioeconomic issues; • Food availability including access, stability and utilization within the foodshed; • Conservation values; • Ecosystem services; • Soil physical, chemical and biological properties • Air quality; • Physical, chemical and biological properties of the water resources within and outside the production site |

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| <p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p> | <p><i>and scale of the operations.</i></p> | <p>Environmental or Social Assessment (RESA) is required. The screening exercise shall be done in accordance with the RSB screening guidelines.</p> <ul style="list-style-type: none"> • The ESMP as described in the RSB ESIA guidelines shall be required for all operations and shall ensure compliance with all RSB principles and criteria. Where there are progress requirements, they shall be detailed. • The ESIA shall be carried out using independent and qualified professionals. • Local experts shall be used to undertake the specialist social impact survey of the RSB ESIA together with the accredited professionals, to ensure that local customs, languages, practices and indigenous knowledge are respected and utilized in the ESIA process. • Small-scale Operators that are working together and/or selling to the same processor or producer (such as those working in a cooperative or an outgrower scheme) shall be permitted to combine operations under one ESIA, RESA or ESMP process. | <p>2.a.i2 A screening process has been completed in accordance with the ESIA guidelines that indicates whether the Operator should carry out a RESA or a full ESIA or if only the ESMP is required.</p> <p>2.a.i3 All reports required under the ESIA guidelines comply with all legal requirements of the relevant authority.</p> <p>2.a.i4 An ESMP has been completed that integrates all requirements under the RSB standard and details the necessary mitigation, monitoring, and progress plans for biofuel production.</p> <p>2.a.i5 Where ongoing monitoring requires changes to the ESMP, these are done according to RSB certification requirements, including any required stakeholder agreement and relevant authority clearance.</p> <p><u>If a RESA or an ESIA is required:</u></p> <p>2.a.i6 The scoping exercise of the ESIA or RESA, if</p> |

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| <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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis. (continued)</p> | <ul style="list-style-type: none"> • For certain principles, the ESIA and/or ESMP shall extend beyond the scope of the immediate operational area, for instance for food security, water management and use, ecosystem impacts, biodiversity and conservation in accordance with the RSB ESIA guidelines. <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 according to the guidance for certification set out by the RSB.</i> • <i>An ESMP may be developed by the operator but shall be audited by an independent third party according to the guidance for certification set out by the RSB</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>applicable, covers all aspects of the operations and indicates what impacts may be expected and what specialist studies should be completed, in accordance with the ESIA guidelines</p> <p>2.a.i7 An ESIA or a RESA, with all specialist studies, if applicable, has been carried out in accordance with the ESIA guidelines</p> <p>2.a.i8 The CV of the ESIA/RESA team leader and details of the experience and affiliation of the members of the team is available and complies with the requirements under the ESIA guidelines and/or legal requirements including requirements for independence.</p> <p>2.a.i9 There is evidence that local experts were included in the specialist social impact study (SIA).</p> <p>2.a.i10 Through the ESMP process, and as described in the ESIA guidelines, ongoing engagement with the interested and affected stakeholders is taking place, where appropriate, and according to agreed time</p> |

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| <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 Environmental and Social Impact Assessment (ESIA) 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 change (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>frames and suggestions and comments are being recorded and accommodated under the ongoing revision and updating process as described in the ESIA guidelines.</p> <p><u>For existing projects established prior to January 2010:</u></p> <p>2.a.i11 A risk self assessment has been carried out that determines what assessments, and mitigation plans, if any, need to be carried out in order to comply with the RSB standard</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.</p> <p>See general guidance for Principle 11.</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> 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 | <p>11.b.i1 The Operator has undertaken a risk assessment of all technologies used in biofuel operations, or uses an existing risk assessment undertaken by government or any independent expert.</p> <p>11.b.i2 No potentially hazardous technology is used by the Operator without a demonstrated understanding of the potential impacts and capacity to monitor, prevent and mitigate the impacts caused by such technology to people and the environment.</p> <p>11.b.i3</p> |

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| <p>1.9 Environmental sustainability (cross-cutting) (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>shall follow relevant national or international guidelines, laws and agreement, including crop-specific stewardship systems, and local and community coexistence agreements or understandings.</p> <ul style="list-style-type: none"> • For new operations, 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. • 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. • 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"> • Improved environmental performances include, for instance, lower water consumption or decreased use of chemical | <p>For technologies identified as potentially hazardous, the Operator can demonstrate that such use is in strict compliance with national laws and internationally accepted scientific protocols.</p> <p>11.b.i4 For technologies identified as potentially hazardous, there is justification for use, including evidence of clear positive impacts on environmental, social or economic aspects within the operation and the local area. Positive impacts are measured against common practices in the local context.</p> <p>11.b.i5 For technologies identified as potentially hazardous, comprehensive records of use are maintained, and the impacts of such use are closely monitored and mitigated.</p> <p><u>Genetically modified organisms:</u> 11.b.i6 Any Genetically Modified Organism is used by the feedstock producer according to the existing regulation in the country of operation.</p> <p>11.b.i7 If no regulation exists or if the existing regulation does not include provision for monitoring and</p> |

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| <p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p> | <p><u>11. 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. (continued)</p> | <p>inputs (fertilizers, pesticides), as compared to common practices in the local context.</p> <ul style="list-style-type: none"> • 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). • 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. • 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 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. • Whenever there are no specific regulations regarding the use of GMOs, the use of GMO technologies may only occur following the | <p>mitigation of GMOs in the country of operation, the feedstock producer has implemented a monitoring and mitigation strategy, including a qualified and documented scientific risk assessment and risk management guidelines based on the Biosafety Clearinghouse (BCH – Cartagena Protocol) and other existing legislation and guidelines.</p> <p>11.b.i8 If Genetically Modified Organisms are used, preventative measures have been taken by the feedstock producer against migration of genetically modified material outside of the operation.</p> <p>11.b.i9 If Genetically Modified Organisms are used, the feedstock producer cooperates with neighbors, regulatory and conservation authorities, and local stakeholders to conduct monitoring and prevent gene migration.</p> |

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| <p>1.9 Environmental sustainability (cross-cutting) (continued)</p> <p>Back to table of contents</p> | <p><u>11. 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. (continued)</p> | <p>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).</p> <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): 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> Biofuel Processors 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, | <p>11.c.i1 If class 2, 3 or 4 micro-organisms are used, the Operator exercises engineering control measures at source including adequate tests and maintenance of control measures and equipment. The frequency of examination and testing will depend on the nature of the organism and the product.</p> <p>11.c.i2 If class 2, 3 or 4 micro-organisms are used, personnel have adequate training and experience in storage, handling, use, disposal and emergency procedures for micro-organisms.</p> |

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| 1.9 Environmental sustainability (cross-cutting) (continued) | <p><u>11. 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. (continued)</p> | <p>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.</p> <ul style="list-style-type: none"> 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.i3 If class 2, 3 or 4 micro-organisms are used, the Operator has an emergency plan for handling accidents and unexpected events for contained uses, where the failure of the containment measures could lead to serious danger to humans and/or the environment.</p> <p>11.c.i4 If class 2, 3 or 4 micro-organisms are used, there is documented evidence that no viable micro-organisms have been detected outside the processing equipment.</p> |
| 2. SOCIO-ECONOMIC | | | |
| 2.1 Land tenure/access and displacement Back to table of contents | <p><u>12. Land Rights:</u> 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 shall provide a basis for the implementation of this principle.</i> <i>Court rulings regarding legitimacy of disputers</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><u>Minimum requirements</u></p> <ul style="list-style-type: none"> The ESIA guidelines on land rights including the toolkit on stakeholder mapping shall be used to determine land rights and land use | <p><u>For all Operators</u></p> <p>12.a.i1 Baseline data has been collected and documented on land use, land tenure and land rights, both formal and informal (of the land intended for use for biofuel production) according to the RSB ESIA and land rights guidelines.</p> <p><u>Where the ESIA screening process indicates that land tenure, land use and land use rights pose a risk to biofuel production:</u></p> <p>12.a.i2 The Operator has engaged and consulted stakeholders regarding land rights and land use</p> |

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| <p>2.1 Land tenure/access and displacement (continued)</p> <p>Back to table of contents</p> | <p><i>shall be respected, but the fact that a dispute is in legal process does not necessarily define it as legitimate</i></p> <ul style="list-style-type: none"> • <i>Particular attention shall 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 shall be part of the Environmental and Social Impact Assessment described under Principle 2, which ensures participatory processes.</i> | <p>rights.</p> <ul style="list-style-type: none"> • 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 RSB guidelines.</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>rights according to the ESIA guidelines on stakeholder engagement and the land rights guidelines and their concerns and comments have been documented.</p> <p>12.a.i3 Where an infringement of land rights was identified in 12.a.i1 & i2, these have been settled through free prior and informed consent and negotiated agreements as set out in 12b.</p> <p>12.a.i4 There is no use of land for biofuel production which is subject to an existing unresolved legitimate dispute (see RSB definition for 'legitimate dispute') that has not been settled through free prior and informed consent and negotiated settlements with affected stakeholders as per the RSB ESIA and land rights guidelines.</p> <p>12.a.i5 The right of the Operator to use the land for biofuels production has been established based on the documented evidence from 12.a.i1 and 12b and documented in the ESIR.</p> <p>12.a.i6 Any new disputes that arise after certification as a result of ongoing biofuel operations are dealt with through the ESMP and ongoing monitoring and grievance procedures in the ESIA guidelines.</p> |

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| <p>2.2 Rural and social development</p> <p>Back to table of contents</p> | <p>5. Rural and Social Development: In regions of poverty, biofuel operations shall contribute to the social and economic development of local, rural and indigenous people and communities.</p> <p>General guidance:</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</i> | <p>5.a In regions of poverty, the socioeconomic status of local stakeholders impacted by biofuel operations shall be improved.</p> <p>Operators who must comply: Feedstock producer, Feedstock processor, Biofuel producer.</p> <p>Minimum requirements</p> <ul style="list-style-type: none"> • In areas where the socioeconomic baseline survey undertaken in the ESIA process 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 ESIA or during the continuous ESIA assessment process that mechanization is the optimal choice from an environmental, economic, and social perspective, the transition from labor intensity to mechanization shall be | <p>5.a.i1 The Operator has assessed whether operations are in a region of poverty.</p> <p>In regions of poverty:</p> <p>5.a.i2 The Operator undertakes mitigation activities based on livelihood impacts and the socio-economic baseline survey, including for instance by allowing time during the workday or work week for subsistence and livelihood activities such as farming, fishing, hunting, gathering, etc.</p> <p>5.a.i3 There is evidence to show improvements of the socioeconomic parameters identified in the baseline survey. Progress shall be reviewed at least every 2 years.</p> <p>5.a.i4 The Operator demonstrates every effort has been made to employ workers from local communities as a priority over workers from further away.</p> <p>5.a.i5 The Operator provides skills training and/or other</p> |

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| <p>2.2 Rural and social development (continued)</p> <p>Back to table of contents</p> | <p><i>Poverty Indicators can be developed as part of the ESIA, using existing tools available (UNDP, Development Banks, FAO).</i></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> | <p>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> <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. • Mitigation measures for potential negative impacts shall be negotiated through the ESIA process. • 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: <ul style="list-style-type: none"> a) Creation of year round and/or long term | <p>appropriate forms of assistance to local communities, to enable employment of local people in the operations. Records are kept to this effect.</p> <p>5.a.i6 The Operator consults stakeholders on any plans for significant changes in management operations or organizational structure with potentially significant employment impacts.</p> <p>5.a.i7 Where significant employment impacts are identified from efficiency improvements and modernization of production and processing (such as through mechanization), the Operator has a re-skilling plan in place and gives affected workers priority consideration for opportunities in other forms of employment within the operations.</p> <p>5.a.i8 Within three years after initial certification, the Operator makes demonstrable contributions to local development based on the results of consultation with local communities, in accordance with the scale of the biofuel operations.</p> |

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| <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>jobs</p> <p>b) The establishment of governance structures that support empowerment of small scale farmers and rural communities such as co-operatives and micro credit schemes</p> <p>c) Use of the locally produced bio-energy to provide modern energy services to local poor communities</p> <p>d) Shareholding options, local ownership, joint ventures and partnerships with the local communities</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 shall determine if the target area of biofuel production is a region of poverty.</i> • <i>In areas where the ESIA indicates that local livelihoods could be negatively impacted upon by biofuel operations, mitigation plans shall include options to address this as</i> | <p>5a.i9 There is evidence of fair dealings with small-scale farmers and local businesses.</p> |

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| <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><i>suggested in the RSB ESIA guidelines.</i></p> <ul style="list-style-type: none"> • <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; 3.2 Participation and transparency; 4.2 Food access; and 4.4 Food stability.]</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> | |

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| <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> | <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 this sector <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> <ul style="list-style-type: none"> • <i>This criterion shall be implemented using the tools described in the RSB guidelines 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> <ol 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</i> | <p>measures that ensure benefits for women, youth, indigenous communities and other vulnerable groups.</p> <p>The following is not applicable to small scale operations:</p> <p><u>Progress requirements 5.b.i3</u> The Operator has an internal training program for management and workers aimed at building tolerance and fostering a working environment of equality for women, youth, indigenous communities and other vulnerable groups.</p> |

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| 2.2 Rural and social development (continued) | | <p><i>vulnerable are given ample opportunity to apply for work, through careful attention to the ways jobs are advertised and interviews are conducted.</i></p> <p>[Also relevant to aspect(s)/issue(s): 3.2 Participation and transparency.]</p> | |
| 2.3 Access to water and other natural resources Back to table of contents | <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.</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> 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. • 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. | <p>9.a.i1 Water users within the watershed of the biofuel production operation have been assessed and documented according to the Environmental and Social Impact Assessment (ESIA) water rights guidelines.</p> <p>9.a.i2 Existing water rights, both formal and customary/informal, prior to operations have been established.</p> <p>9.a.i3 Water usage rights and access by local and indigenous communities are ensured and protected through the environmental and social management plan (ESMP) and the water management plan which ensures that biofuel production does not have any negative impact on the other users.</p> |

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| <p>2.3 Access to water and other natural resources (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>For others than small-scale Operators:</u></p> <ul style="list-style-type: none"> As part of the Environmental and Social Impact Assessment (ESIA) outlined in Principle 2, a consultative process that includes water regulatory authorities, local water experts, community members, and indigenous peoples relying on the same water table or watercourse for their needs shall be used to identify downstream or groundwater users and determine the formal or customary water rights that exist, as well as critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs. The potential impacts of biofuel operations on any of these aspects shall be evaluated, and any negative impacts mitigated. Any formal or customary water rights that exist shall be respected and protected through the water management plan (see 9.b) to prevent infringement of such rights. No modification of the existing rights can happen without the Free Prior and Informed Consent of the parties affected. <p><u>For small-scale Operators only:</u> The potential impacts of biofuel operations on water availability within the local community and ecosystems shall be assessed by the</p> | <p>9.a.i4 The Operator does not use water which is subject to an unresolved legitimate dispute in accordance with the ESIA water rights guidelines.</p> <p>9.a.i5 Where there has been a legitimate dispute, this has been settled through free, prior and informed consent and negotiated settlements with the affected stakeholders according to the stakeholder management and dispute resolution process of the ESIA guidelines.</p> <p>9.a.i6 There are no unresolved legitimate water rights dispute regarding water rights or allocation licenses that have been granted to biofuel production.</p> <p>9.a.i7 All required government regulated licenses and formal allocation processes have been completed and are valid.</p> <p>9.a.i8 The requirement for water for ecosystems and to sustain biological life within the watershed of the operations have been established according to the ESIA ecological and water specialist study guidelines.</p> |

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| <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>Operator, and any negative impacts mitigated.</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.</i> <p>[Also relevant to aspect(s)/issue(s): 3.2 Participation and transparency.]</p> | <p>9.a.i9 Water management requirements for maintenance of critical aquifer recharge areas, replenishment capacities of local water tables, watercourses, and ecosystem needs are ensured and protected through the environmental and social management plan (ESMP) and the water management plan which ensures that biofuel production does not have any negative impact.</p> <p><u>For small-scale projects:</u> 9.a.i8 A Rapid environmental and Social Impact assessment indicates that there will be no significant removal of water rights for both people and ecosystems as a result of the biofuel production</p> <p>9.a.i8 The ESMP ensures that any negative impacts have been adequately mitigated.</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><u>General Guidance:</u></p> <ul style="list-style-type: none"> <i>Employees, contracted labor, small outgrowers,</i> | <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><u>Minimum requirements</u></p> <ul style="list-style-type: none"> <i>In countries where the law prevents</i> | <p>4.a.i1 All workers 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> <p>4.a.i2 The Operator effectively informs personnel that they are free to join an organization of their choosing and that their doing so will not result in</p> |

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| 2.4 Employment, wages and labor conditions Back to table of contents | <p><i>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></p> <ul style="list-style-type: none"> • <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> • <i>All of the rights provided for in this principle shall apply equally to men and</i> | <p>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.</p> <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>any negative consequences to them from the company.</p> <p>4.a.i3 The Operator does not interfere with the establishment, functioning, or administration of such workers' organizations or collective bargaining.</p> <p>4.a.i4 In situations where the rights to freedom of association and collective bargaining are restricted under 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 engage with employers without breaking the law.</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) shall provide the basis under which this criterion is implemented.</i> | <p>4.b.i1 The Operator does not engage in or support the use of forced or compulsory labor as defined in ILO Convention 29. No forced, compulsory, bonded, trafficked or otherwise involuntary labor is being used by the Operator.</p> <p>4.b.i2 No workers of any type are required to lodge their identify papers with anyone and no part of their salary, benefits or property is retained in order to force them to work or stay on the operation.</p> |

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| 2.4 Employment, wages and labor conditions Back to table of contents | <i>women.</i> | | 4.b.i3 Spouses and children of workers are not obliged to work in the operation. |
| | | 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. <u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer. <u>Minimum requirements</u> <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. <u>Guidance on Criterion 4.c</u> <ul style="list-style-type: none"> • <i>The ILO's Minimum Age Convention (No. 138) and Worst Forms of Child Labor Convention (No. 182) shall provide the basis under which this criterion is implemented.</i> | 4.c.i1 Children of age 14 and under (or the legal national age) are not employed directly or indirectly by the operation [Exceptions may be made in the case of family farms – see 4.c.i4 and 4.c.i5 below] 4.c.i2 Workers under the age of 18 do not undertake hazardous or dangerous work. In the case of family farms only: 4.c.i3 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 traditionally helped with agricultural work. 4.c.i4 Where children work on family farms, the work does not interfere with their educational, social or physical development and the work day including schooling, transport and work does not exceed 10 hours. |

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| <p>2.4 Employment, wages and labor conditions (continued)</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. (continued)</p> | <p>4.d Workers shall be free of discrimination of any kind, whether in employment or opportunity, with respect to gender, wages, 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>4.d.i1 The Operator does not engage in, support or tolerate of any form of discrimination in hiring, remuneration, benefits, access to training, promotion, termination, retirement or any other aspect of employment, based on race, color, 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 The Operator does not engage in, support or tolerate the use of corporal punishment, mental or physical oppression and coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation.</p> <p>4.d.i3 The Operator does not engage in, support or tolerate any behaviour that is threatening, abusive, exploitative, or sexually coercive, including gestures, language and physical contact in the workplace and where applicable in residences and other facilities provided by the company for use by personnel.</p> |

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| <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, 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 | <p><u>Minimum requirement:</u></p> <p>4.e.i1 The Operator pays all workers at least the government regulated minimum wage for the applicable work as required by law, which includes all mandated wages, allowances and benefits.</p> <p>4.e.i2 Where a government regulated minimum wage does not exist, the biofuel producer has negotiated with the workers to establish an agreed wage and such agreements are in line with all applicable laws and international conventions and local collective agreements, where they exist.</p> <p>4.e.i3 Men and women earn equal pay for equal work.</p> <p>4.e.i4 For piecework, the pay rate allows male and female workers to earn at least the legal minimum wage for the specific work, based on the hourly rate if applicable or an eight-hour workday under average conditions.</p> <p>4.e.i5 Wages are provided in cash or in another form acceptable to workers, and are paid at least monthly.</p> <p>4.e.i6</p> |

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| <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>worked per week must not exceed 48. Workers may work overtime which shall be voluntary, but total working hours shall not 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) shall provide relevant definitions for this criterion.</i> <p>[Also relevant to aspect(s)/issue(s): 3.1 Compliance.]</p> | <p>No deductions from wages as a result of disciplinary measures are made.</p> <p>4.e.i7 All collective agreements relating to pay, benefits and conditions of employment are upheld by the Operator.</p> <p>4.e.i8 The maximum number of hours worked per regular week does not exceed 48. In exceptional circumstances (for instance during peak production periods), workers may choose to work an additional 32 hours per week of overtime. Overtime is voluntary and is paid according to legal or industry standards.</p> <p>4.e.i9 In cases of redundancies/lay-offs, economic compensation for workers is provided according to relevant national labor legislation. In the absence of national legislation, the labor contract for permanent and seasonal workers shall include a severance provision.</p> |
| | | <p>4.g Operators shall implement a mechanism to ensure the human rights and labor rights outlined in this principle apply equally when labor is contracted through third parties.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and</p> | <p>4.g.i1 The Operator maintains up-to-date records of all contractors (and sub-contractors) whose personnel are working directly on the operation.</p> <p>4.g.i2 Contractors and subcontractors are subject to</p> |

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| <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>Biofuel Producer.</p> <p><u>Progress requirements (required within three years of certification)</u></p> <ul style="list-style-type: none"> • 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>monitoring to confirm compliance with the requirements of Principle 4.</p> <p>4.g.i3 The Operator maintains appropriate records that show that contractors and subcontractors adhere to the requirements of this principle. This shall include (but is not limited to): a contractual agreement and/or written commitment to conform to the requirements, participate in monitoring activities at the request of the company.</p> <p>4g.i4 There is evidence of fair dealings with small scale farmers and local businesses.</p> <p><u>Guidance for 4g.i4</u> This may include for example a publicly available pricing mechanism, evidence that contractual agreements are knowingly entered into, and that contracts are fair, legal and transparent, evidence that agreed payments are made in a timely manner etc.</p> <p><u>Progress requirement 4.g.i5</u> The Operator is working with its suppliers and contractors to support the implementation of a mechanism that ensures the human rights and labor rights (as set out in Principle 4) of the subcontractor's suppliers and contractors are met.</p> |

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| <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>4.g Operators shall implement a mechanism to ensure the human rights and labor rights outlined in this principle apply equally when labor is contracted through third parties. (continued)</p> | <p><u>Guidance for 4.g.i5</u> This indicator is referring to companies, organizations or individuals that are not part of the Operators direct supply chain, which may for example supply administrative goods & services to the Operator's suppliers, or products which do not enter the Operator's supply chain.</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><u>Guidance on Criterion 4.f</u></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</i> | <p>4.f.i1 The Operator has a health and safety policy which applies to all workers and is adequately implemented and monitored.</p> <p>4.f.i2 The Operator has identified relevant health and safety risks and has effective procedures to address these risks.</p> <p>4.f.i3 The Operator has accident and emergency procedures and instructions are clearly understood by all workers. Records are kept of all accidents and periodically reviewed.</p> <p>4.f.i4 First aid kits, fire extinguishers, spill response material, and all other applicable and appropriate emergency response material is available at all</p> |

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| <p>2.5 Human health and safety (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><i>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> <p>[Also relevant to aspect(s)/issue(s): 2.4 Employment, wages and labour conditions; and 4.3 Food utilization.]</p> | <p>permanent sites and in the vicinity of agricultural sites.</p> <p>4.f.i5 All workers are provided with and use appropriate personal protective equipment to protect them from all occupational health and safety hazards.</p> <p>4.f.i6 All workers are adequately trained in the use of their protective clothing, interpretation of labels, preventative measures for reducing damage to health and the environment, emergency procedures, correct application, transport, storage and handling of hazardous substances and waste, and in all other procedures that pose an occupational health and safety risk or a risk to the environment.</p> <p>4.f.i7 All workers are provide with access to clean toilet facilities, access to potable water, and where applicable sanitary facilities for food storage.</p> <p>4.f.i8 Living quarters (for permanent or temporary workers) provided by the Operator are designed, built and regularly maintained to ensure safe and healthy conditions. Provision of infrastructure for sleeping, toilet/latrines, showers, and facilities for storing and preparing food are clean, safe, and meet the basic needs of the personnel and their families, and complies with legal requirements.</p> |

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| 2.7 Good management practices and continuous improvement | <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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis.</p> <p>See general guidance for Principle 2.</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> <ul style="list-style-type: none"> • 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>2.c.i1 The business plan is submitted as part of the documentation of the ESIA process to the auditor.</p> <p>2.c.i.2 The business plan integrates the cost of complying with the social and environmental requirements as per the ESIR and the ESMP.</p> <p>2.c.i3 The Operator documents and implements a business plan that reflects a commitment to long-term economic viability.</p> <p>2.c.i4 The business plan is integrated into the ESMP process where it is subject to monitoring and assessment as per the recorded agreements for both impacts assessment and progress reporting.</p> |
| 3. GOVERNANCE | | | |
| 3.1 Compliance Back to table of contents | <p>1. <u>Legality</u> Biofuel operation shall follow all applicable laws and regulations</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> • <i>Applicable laws include those related to the social and environmental sustainability criteria</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.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor and Biofuel Producer.</p> | <p>1.a.i1 The Operator demonstrates an awareness of the applicable national laws and regulations and international laws and agreements.</p> <p>1.a.i2 There is no evidence of systematic or major non compliance with any applicable laws and regulations.</p> |

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| <p>3.1 Compliance (continued)</p> <p>Back to table of contents</p> | <p><i>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, the UN Framework Convention on Climate Change, and the UN Fourth World Conference</i></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. (continued)</p> | <p>1.a.i3 There is no evidence of systematic or major non compliance with any relevant international laws or agreements.</p> <p>1.a.i4 Where applicable, the Operator is in compliance with the terms of issue of operating permits. Where the terms of the permit have been audited by an internal or external auditor (e.g., health and safety audits, waste management audits, air permit audits, building code audits, HR audits, etc.), there are no systematic or major violation which remain unresolved.</p> <p>For non small--scale Operators only: 1.a.5 There is an effective procedure for familiarizing staff with applicable laws and other regulatory requirements, and updating staff when there are changes.</p> <p>1.a.i6 All personnel, including contractors, demonstrate a working knowledge of relevant codes of practice, operational guidelines and other accepted norms or agreements relevant to their responsibilities.</p> <p>1.a.i7 The Operator can demonstrate that they have effective procedures in place to ensure that</p> |

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| 3.1 Compliance (continued) | <p><i>on Women's Beijing Declaration.</i></p> <ul style="list-style-type: none"> <i>Conflicts among supra-national, national, regional, and/or local laws, regulations and the RSB standard shall be evaluated on a case-by-case basis for the purposes of certification.</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> | <p>contractors and others responsible for operations on the property comply with applicable legal requirements.</p> |
| <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 Environmental and Social Impact Assessment (ESIA) 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 ESIA guidelines. Those responsible for undertaking the ESIA or RESA shall undertake and document a stakeholder analysis in accordance with the | <p><u>If a RESA or an ESIA is required:</u></p> <p>2.b.i1 A stakeholder analysis report is available that is in accordance with the ESIA stakeholder engagement guidelines.</p> <p>2.b.i2 A stakeholder engagement process was in place which reflects the extent of the engagement and consultation necessary for the scale and intensity of the operations.</p> <p>2.b.i3 The Operator has records of the stakeholder process, including the numbers of stakeholder meetings and attending participants along with comments, recommendations and consensus agreements from the meetings.</p> <p>2.b.i4</p> |

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| <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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis. (continued)</p> | <p>RSB ESIA guidelines.</p> <ul style="list-style-type: none"> • The ESIA facilitators shall demonstrate that they have made every effort to 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 ESIA guidelines. • Participatory methodologies described in the RSB guidelines 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, through, for instance, including women’s groups, youth groups and issue-based groups in the stakeholder meetings, and holding separate meetings with such groups if necessary. Where the need is identified, through the ESIA process, in regions of vulnerability and inequality, the ESIA facilitator shall provide informal workshops to build local understanding in the community of the processes that may impact them directly to aid meaningful engagement. | <p>Where appropriate, participatory methodologies were used when engaging stakeholders</p> <p>2.b.i5 Stakeholder meetings included representatives from all major stakeholder groups as defined by the UN unless legitimate reasons for non attendance of any stakeholder groups are provided.</p> <p>2.b.i6 Special focus group meetings were held and documented with women and youth to elicit their responses and comments on the ESIA recommendations, the draft ESIR report and the draft ESMP reports</p> <p>2.b.i7 Stakeholder meetings ensuring easy access, availability, understanding and accommodation of the needs of the local stakeholders were held as per ESIA stakeholder guidelines.</p> <p>2.b.i8 Information for the meetings was provided in an open and transparent, timely way, prior to meetings and in a format (including language, style, presentation) that was appropriate for the particular stakeholder group or people or organizations who are to be engaged as per the ESIA stakeholder engagement guidelines.</p> |

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| <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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis. (continued)</p> | <ul style="list-style-type: none"> • Relevant government authorities shall be included in the stakeholder process to ensure efficient streamlining of the process with legal requirements. • 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 ESIA guidelines. • Management documents shall be publicly available, except where this is prevented by commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes. • The RSB ESIA guidelines for consensus-seeking shall be used, such that individuals or single-issue groups cannot block consensus. The RSB ESIA guidelines also provide tools for unblocking deadlocks and they shall be used in the event of a deadlock. In regions of poverty, where the ESIA identifies a significant potential for rights abuses through biofuel operations, the Operator shall provide independent legal advice for local and indigenous communities in the event that such services cannot be | <p>2.b.i9 Information included was relevant to the project operations, and included all aspects of the project planning (including social, physical and economic planning elements) and potential social and environmental impacts</p> <p>2.a.i10 The draft ESIR report was made available to stakeholders in a special meeting for this purpose and in a format and manner in keeping with local traditions and languages, literacy levels and requirements and needs of the local people in accordance with the ESIA stakeholder engagement guidelines</p> <p>2.b.i11 If information was withheld for any reason, legitimate reasons must be presented in the accompanying documentation</p> <p>2.b.i12 Consensus was reached between the Operator and stakeholders on the recommendations in the ESIA report, on the draft ESIR and the ESMP.</p> <p>2.b.i13 Consensus seeking was the main aim of the stakeholder engagement process, and where</p> |

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| <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 Environmental and Social Impact Assessment (ESIA) and an economic viability analysis. (continued)</p> | <p>provided by the state or are outside of the reaches of the affected stakeholders to afford such services.</p> <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>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> (ii) <i>improving access by the poor to productive natural resources and technologies and promoting decentralized management of those resources;and</i> (iii) <i>increasing access by the poor to financial services and markets</i> • <i>FPIC applies to all locally-affected stakeholders.</i> • <i>The auditor shall decide, based on documents submitted for certification, whether any dissension among stakeholders is significant and/or contravenes the RSB standard.</i> | <p>blockages or stalemates occurred, the Operator demonstrated attempts to address and unblock and arrive at consensus.</p> <p>2.b.i14 If arbitration was necessary a report from the arbitrator is included in final documentation.</p> <p>2.b.i15 Legal advice for participants was organized where it was required in accordance with the ESIA guidelines.</p> <p>2.a.i16 The final ESIR submitted to the auditor for certification purposes indicates whether consensus was achieved as per 2.b.i11 and if there are dissenting views, these have been recorded with details on the dissenting parties and their reasons for dissension.</p> |

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| <p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p> | <p>11. Technology 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><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</i> | <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><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 Operator shall disclose potential hazards related but not restricted to Genetically Modified Organisms (GMO) when such technology is used, and make this information available to the public upon request. The Biosafety Clearinghouse established under the Cartagena Protocol on Biosafety shall be consulted to provide information about specific GMOs, including related risk and countries' decisions regarding that technology. <p><u>Guidance on Criterion 11.a</u> <i>The categories of potentially hazardous technologies to be considered are:</i></p> <ol style="list-style-type: none"> 1) <i>Feedstock production:</i> <ul style="list-style-type: none"> • <i>Heavy machines and vehicles (production</i> | <p>11.a.i1 The Operator provides information on request regarding the use of technologies in biofuel operations, except for proprietary technology which is protected by intellectual property rights or by law.</p> <p>11.a.i2 Following the risk assessment (see 11.bi1), the Operator has put information in the public domain and notified any potentially affected parties about potentially hazardous technologies used in biofuel operations, including but not restricted to GMOs. This includes disclosure of any foreseeable impacts on human health and the environment.</p> <p>11.a.i3 The Operator has consulted the Biosafety Clearinghouse to identify country decisions and declarations on GMO technologies used. All decisions and declarations are documented.</p> <p><u>For small-scale farmers and small feedstock producers:</u></p> <p>11.a.i4 Any parties potentially affected by hazardous technologies used in biofuel operations, including but not restricted to GMOs, are aware of the technologies being used and the potential hazards.</p> |

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| <p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p> | <p><i>along the value chain improve production efficiency and exhibit social and environmental benefits, 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>and transport)</i></p> <ul style="list-style-type: none"> • <i>Specific crops (e.g. potentially invasive species, GMOs)</i> • <i>Biological agents (e.g. mycorrhiza, nitrogen fixing plants)</i> • <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>12. Land Rights 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,</p> | <p><u>These indicators only apply where land rights are to be voluntarily relinquished</u> 12.b.i1 There has been no involuntary resettlement for the purposes of biofuel production.</p> <p>12.b.i2 All negotiated agreements relating to acquisition or</p> |

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| <p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p> | <p>12. <u>Land Rights</u> Biofuel operations shall respect land rights and land use rights. (continued)</p> | <p>Biofuel Producer.</p> <p><u>Minimum requirements</u></p> <ul style="list-style-type: none"> • No involuntary resettlement shall be allowed for biofuel operations. • The ESIA guidelines for land rights, the consensus building toolkit and Free Prior and Informed Consent shall be used as the basis for any negotiated agreements. • Where land rights and land use rights are voluntarily relinquished, local people shall be fairly, equitably and timely compensated for any agreed land acquisitions and relinquishments of any land rights or land use rights. • Compensation for voluntary relinquishment 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 | <p>use of land are based on free, prior, informed consent as defined by the RSB and set out in the ESIA guidelines on land rights and the ESIA stakeholder engagement guidelines.</p> <p>12.b.i3 Land and assets are valued by independent, qualified land valuation specialists.</p> <p>12.b.i4 Where land rights and/or land-use rights have been voluntarily relinquished, measures are in place to ensure that all former rights holders are able to sustain their livelihoods.</p> <p>12.b.i5 All purchases of land by the Operator have been undertaken on a willing buyer –willing seller basis.</p> <p>12.b.i6 The Operator has not used coercion to alter existing land rights and/or land-use rights.</p> <p>12.b.i7 Where negotiated agreements have been made, these agreements have set out an agreed process and time frame for compensation.</p> <p>12.b.i8 Agreements from 12.b.17 have been implemented in a timely manner.</p> |

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| <p>3.2 Participation and transparency (continued)</p> <p>Back to table of contents</p> | <p>12. <u>Land Rights</u> Biofuel operations shall respect land rights and land use rights. (continued)</p> | <p>applied, international and regional legal bodies shall be consulted for rulings and 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) shall be used for determining the basis for compensation if resettlement is required.</i> • <i>RSB guidelines for the Environmental and Social Impact Assessment described under Principle 2 shall 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>12.b.i9 If rights holders do not have the resources to represent their own interests adequately in any dispute, independent legal advice is provided, if necessary at the expense of the biofuel producer as per the ESIA guidelines.</p> |

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| 4. FOOD SECURITY | | | |
| <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</p> <p><u>General guidance:</u></p> <ul style="list-style-type: none"> <i>The RSB food security guidelines 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. The impacts on food security of potential macroeconomic food price changes caused by biofuels demand are not</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"> If the screening exercise of the ESIA process indicates that biofuel operations will involve a change in land ownership (rights) and take place in a region where food security is a risk, a full assessment shall be carried out according to the RSB food security guidelines. If the screening exercise described in the ESIA guidelines indicates that biofuel operations will not involve a change in land ownership (rights) but will take place in a region where food security is a risk, an RESA can be undertaken with a specialist assessment of the impact on food security 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 | <p>6.a.i1 The Operator has collected baseline data within the local foodshed of biofuel operations on food security, including availability, access, stability and utilization in a accordance with the ESIA food security guidelines.</p> <p>6.a.i2 The Operator has undertaken an assessment of the status of food security in the region in accordance with the RSB food security guidelines.</p> <p><u>Where food security has been identified as a risk:</u></p> <p>6.a.i3 The Operator has undertaken a full food security impact assessment of the biofuel operations as part of the RESA or ESIA in accordance with the RSB food security guidelines to cover access, availability, stability and utilization and cross cutting issues such as labor, water, fuel, fodder and livelihood support.</p> <p>6.a.i4 Appropriate parameters for measurement on an ongoing basis of local food security have been identified, based on existing global and national food security indicators, specific risks identified by the Operator, and in accordance with the RSB food security guidelines.</p> <p>6.a.i5</p> |

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| <p>4.5 Food security (cross-cutting)</p> <p>Back to table of contents</p> | <p><i>addressed in this standard but will be addressed in separate policies and strategies of the RSB.</i></p> | <ul style="list-style-type: none"> • If the assessment indicates a food security risk as a result of biofuel operations, a mitigation plan shall be developed and implemented through the ESMP. • The risk assessment shall identify potential positive impacts on local economic development that can be promoted through compliance with Principle 5 on Rural and Social Development. <p><u>Guidance on Criterion 6.a</u></p> <ul style="list-style-type: none"> • <i>The scoping exercise outlined in Principle 2 shall include an assessment of the status of food security in the region.</i> • <i>The scoping and baseline assessment shall 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 shall 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 shall be assessed based on the ability of local people to utilize the available food due to</i> | <p>The Operator has analyzed the risks that biofuel operations pose to food security and has developed a food security risk mitigation plan based on the RSB food security guidelines, which forms part of the ESMP.</p> <p>6.a.i6 The food security risk mitigation plan is effectively implemented according to the ESMP, such that food security impacts from biofuel operations are mitigated.</p> <p>6.a.i7 Regular monitoring and analysis of food security is undertaken (as per the baseline parameters), including data on availability, access, stability and utilization of food.</p> <p>6.a.i8 Opportunities that exist to increase local economic development through job creation and income generation have been optimized within the ESMP (cross cutting with principle 5)</p> |

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| <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 (continued)</p> | <p><i>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></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</i> | |

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| <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 (continued)</p> | <p><i>are of a reasonably predictable nature based on historical events.</i></p> <p>6.b In food insecure regions, biofuel operations shall enhance the local food security of the directly affected stakeholders.</p> <p><u>Operators who must comply:</u> Feedstock Producer, Feedstock Processor (when in the same region as the feedstock producer and processing energy-only crops) 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, • Strategies to enhance regional food security shall be integrated with the rural and social development goals outlined in Principle 5. <p>[Also relevant to aspect(s)/issue(s): 2.1 Land tenure/access and displacement; 4.1 Food availability; 4.2 Food access; and</p> | <p><u>Applies only in food insecure regions and does not apply to small Operators</u></p> <p>6.b.i1 Positive impacts on food security that may result from biofuel production have been identified, optimized and implemented through the ESMP.</p> <p>6.b.i2 The Operator supports rural development and productivity enhancement of farming through local investment or projects.</p> <p>6.b.i3 The Operator provides direct and immediate access to food, or invests in projects that could deliver this benefit, for local food insecure people who are working in or involved with the biofuel operations.</p> <p>6.b.i4 The Operator keeps records of all activities designed to enhance local food security (as set out in 6.b.i.2 and 6.b.i3), including types of support given, number of people/organizations receiving support and monetary value of support.</p> <p>6.b.i5 Regular monitoring of the parameters identified in the ESMP are undertaken.</p> |

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| | | 4.4 Food stability.] | |