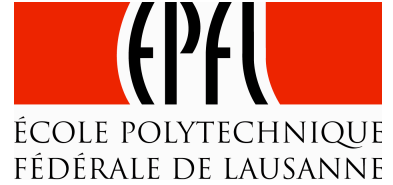


Roundtable on Sustainable Biofuels

An initiative of the EPFL Energy Center

Ensuring that biofuels deliver on their promise of sustainability



Suggested Rewording for Principles and Criteria – Version 0.5

August 2009

Explanatory Note

In August 2008, the RSB released its Version Zero of the Principles & Criteria. This document was circulated around the world until April 2009 for comments and suggestions. Nearly 900 participants from over 40 countries participated in this feedback process. The RSB Secretariat compiled these comments and suggestions and prepared a Version 0.4 through consultation of the RSB Chambers. The Version 0.4 was submitted to the Steering Board for discussion and decision at its meeting in May 2009. The minutes of this meeting can be found on our website.

The RSB Secretariat is pleased to submit Version 0.5 of the RSB Principle & Criteria for Sustainable Biofuels Production to the RSB Chambers. This Version is the result of the deliberations the Steering Board on the Version 0.4.

Version 0.5 includes the following adaptations:

- *The conversion of the “Gold Standard” concept to an approach containing minimum and progress requirements;*
- *The clearer distinction between minimum and progress requirements;*
- *Several specific changes in the criteria, e.g. a reference to the cut-off dates applied in the US or the EU, a reference for mitigating residues diversion or the detailed list of concrete actions to be undertaken by stakeholders to contribute to local livelihood improvement.*

Version 0.5 integrates the changes and recommendations that were agreed by the Steering Board. Issues that are still under discussion are excluded from this Version. In these cases, the text of Version Zero remains in Version 0.5. The open issues are under further development by the Secretariat and will be fed into Chamber consultations through late summer/early autumn of 2009. As requested by the Steering Board, we plan to finalize Version One for Board approval in by November 2009.

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PROPOSED VERSION 0.5

1. Principle 1: Legality

Principle 1. Biofuel production shall follow all applicable laws and regulations

Guidance:

- *Applicable laws include those related to the social and environmental sustainability criteria outlined in this standard, including but not limited to regulations governing land tenure and land rights, labour, 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 on Women's Beijing Declaration.*
- *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.*

Criterion 1. Biofuel operations shall comply with all applicable laws and regulations of the country in which the production activity occurs and with relevant international law.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, Biofuel Blender.

2. Principle 2: Planning, Monitoring and Continuous Improvement

Principle 2. 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.

Guidance

- *The RSB ESIA guidelines, which will be based on internationally-recognised and best practice standards for ESIA, shall be applied to ensure the quality of the ESIA.*
- *The RSB ESIA guidelines shall differ for small, medium, and large-scale operations.*

Criterion 2a. 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.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Minimum requirements

- *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.*
- *A scoping exercise shall be required for all new and existing operations and extensions to operations, of all sizes. The scoping exercise shall be done in strict accordance with the RSB scoping exercise guidelines and shall include a summary analysis of potential impacts on all of the sustainability criteria in the RSB, both positive and negative.*
- *The scoping exercise may be done by the Operator but its results will be audited by an independent third party according to the guidance for certification set out by the RSB.*
- *Where the scoping exercise indicates potentially negative significant impacts as defined in the RSB guidelines on any of the sustainability criteria defined in the RSB standard, an ESIA shall be carried out.*
- *Operators shall refer to and comply with the relevant aspects of the RSB ESIA guidelines and toolkit as determined by the scale and intensity of the operations. The ESIA shall cover all aspects related to baseline surveys and assessments, implementation, mitigation, monitoring and evaluation plans that are required under throughout the RSB standard.*
- *The ESIA shall be carried out using independent and qualified professionals.*
- *Local experts shall be used to undertake the community aspects of the ESIA together with the accredited professionals, to ensure that local customs, languages, practices and indigenous knowledge are respected and utilised in the ESIA process; where skills are short, capacity-building shall be provided by the Operator to enable local people to assist in the 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 scoping exercise and ESIA.*

- *For certain principles, the ESIA assessment shall extend beyond the scope of the immediate operational area, for instance for food security, water management and use, ecosystem impacts, biodiversity and conservation; this will be detailed in the RSB guidelines for the related principles.*
- *The Operator shall provide implementation and monitoring plans that clearly address and provide indicators for the continuous improvement of the operations against the RSB standard, with particular attention paid to the aspects that are noted as “progress requirements” in the standard.*
- *Monitoring and evaluation shall take place at regularly defined intervals described in the ESIA, and relevant elements of such reports shall be made available to all locally-affected stakeholders in a readily accessible manner and format.*

Criterion 2b. 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.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Minimum requirements

- *As defined by the UN International Fund for Agricultural Development (IFAD): “Free, prior and informed consent recognizes indigenous peoples’ inherent and prior rights to their lands and resources and respects their legitimate authority to require that third parties enter into an equal and respectful relationship with them, based on the principle of informed consent.”*
- *The definition of FPIC shall be expanded beyond that of indigenous people’s participation to extend the process to all locally-affected stakeholders.*
- *The underlying principles as outlined by IFAD behind Free, Prior and Informed Consent shall be applied and can be summarized as follows: (i) information about and consultation on any proposed initiative and its likely impacts must be made available; (ii) meaningful participation of any indigenous peoples impacted by the project is required; and, (iii) the formation and strengthening of representative institutions is required for effective engagement.*
- *While FPIC provides the process conditions for stakeholder engagement and negotiated agreements, consensus shall be the decision-making tool applied in all cases.*
- *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) enhancing the capabilities of the poor and their organizations to: 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; (ii) improving access by the poor to productive natural resources and technologies and promoting decentralized management of those resources; and (iii) increasing access by the poor to financial services and markets.*
- *The ESIA professional shall undertake and document a stakeholder analysis. This stakeholder analysis shall determine the status of each stakeholder within the consensus-building process.*

Stakeholders, can, for instance, be major, minor and marginal, depending on the interests at stake.

- All locally-affected stakeholders, local leaders, and representatives of community and indigenous peoples groups shall be invited to participate in the consultative process.*
- The scope of engagement shall be determined by the scale of the operations, and shall be defined 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 by the ESIA, the Operator shall provide capacity-building in regions of vulnerability and inequality to ensure meaningful engagement.*
- 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. Information identified by the independent assessors/ESIA professionals as non-essential for decision-making, for instance proprietary data, need not be included.*
- Consensus is defined as the absence of sustained opposition.*
- Internationally-recognised methodologies for consensus-seeking outlined in the RSB guidance shall be used, such that individuals or single-issue groups cannot block consensus. Processes for unblocking deadlocks shall be described in the RSB ESIA guidelines and shall include arbitration. In instances where consensus is impossible to reach with the major stakeholders, certification shall not be granted.*
- In regions of poverty, where the ESIA identifies a potential for rights abuses through operations, the Operator shall provide independent legal advice for local and indigenous communities.*

Criterion 2c. Biofuel operations shall implement a business plan that reflects a commitment to long-term economic viability.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer.

Minimum requirements

- Operations shall develop and implement a business plan that reflects a commitment to long-term economic viability without compromising the social and environmental principles described in the RSB standard.*

3. Principle 3: Greenhouse Gas Emissions

Principle 3. Biofuels shall contribute to climate change mitigation by significantly reducing lifecycle GHG emissions as compared to fossil fuels.

Guidance:

- *The aim of this principle is to establish a standard methodology for comparing the GHG benefits of different biofuels in a way that can be recognised in regulations and enforced in standards. The recommended standard methodology shall not, therefore, be susceptible to subjective assumptions or manipulation.*
 - *The fossil fuel reference shall be global, based on the average fossil fuel mixes provided by the International Energy Agency for the previous three years. This reference fossil fuel mix shall be revised and updated every year. Regional fossil fuel references can be reported separately. The relevant fossil fuel comparator shall be used (e.g. gasoline for ethanol, etc.)*
 - *In order to ensure full comparability of results, the same scope shall be used for both the fossil fuel and the biofuel.*
-

Criterion 3a. GHG emissions shall be calculated via an RSB-approved approach to lifecycle assessment, with system boundaries from land to tank.

Operators who must comply: Biofuel Blender.

Minimum requirements

- *The system boundary is from land to tank. It shall include carbon embedded in the fuel but exclude vehicle technology. Any additional information on tank- to-wheel performance and blend performance shall be separated out to isolate the land-to-tank performance.*
- *The same system boundary shall be applied to the fossil fuel reference, by including the GHG emissions from exploration, drilling, and processing activities.*
- *The RSB's preferred methodology for carrying out an assessment of GHG lifecycle emissions of biofuels will be outlined in a separate guidance document. Other methodologies that include the key elements of the RSB preferred methodology shall be accepted, provided that transparent comparisons can be made among calculations made using different methodologies.*
- *The RSB's preferred methodology shall contain the following elements:*
 - a. The functional unit shall be defined as the energy content unit of the fuel at the tank level expressed in GJ. Either lower heating value (LHV) or higher heating value (HHV) can be chosen as the energy basis, provided that the selected HV is used consistently.*
 - b. The GHG emissions shall be expressed as kg of CO₂ equivalent per Giga Joule [kgCO₂eq/GJ].*
 - c. The greenhouse gases covered shall include CO₂, N₂O and CH₄.*
 - d. The most recent 100-year time horizon Global Warming Potential values and lifetimes from the IPCC shall be used.*
 - e. GHG emissions from direct land use change and carbon sequestered in the soil and plant matter shall be included.*
- *The guidance document shall include guidelines for the identification of by- and co-products and criteria for allocation, building on the most recent experiences at international level under either regulatory or voluntary schemes.*
- *For other methodologies that do not use the RSB- recommended allocation method, a sensitivity analysis shall be carried out in order to determine the range of uncertainty.*

- *Waste products are defined as having little to no economic value, per the IPCC. An Expert Panel nominated by the RSB Steering Board shall recommend any expansion of the definition of waste beyond that of the IPCC.*
 - *Waste products shall have zero allocation of historical emissions.*
 - *The guidance document shall include guidelines for carrying out more specific assessments of GHG emissions from land use change.*
 - *The RSB reserves the right to revise and update the recommended methodology as new scientific information becomes available.*
-

Criterion 3b. For the assessment of lifecycle GHG emissions, either default values determined by the RSB or calculated values shall be used for the major steps in the biofuel production chain.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Minimum requirements:

- *The RSB will develop criteria for the quality of acceptable default values and calculations, and work with other institutions to develop default values for typical feedstocks and supply chains in different regions to help small producers comply with this criterion.*
 - *Default values provided by the RSB shall be revised and updated regularly. Preference shall be given to national or more specific data when available.*
 - *For major steps where performance varies widely depending on the production practice, conservative default values shall be used in order not to protect bad actors.*
 - *GHG emissions from open-air burning shall be included in the assessments.*
 - *GHG emissions from land use and direct land use change shall be estimated using IPCC Tier 1 values; Tier 2 and Tier 3 values shall be preferred where available.*
 - *Operators can use either the RSB's default values or more specific data (e.g. based on field experiments or national default values) provided that enough justification is given, and that assumptions and results are presented in a transparent manner.*
 - *The RSB reserves the right to introduce more requirements for measurements as scientific consensus allows, including for instance calculations on indirect land use change.*
-

Criterion 3c. Biofuels' contribution to climate change mitigation shall be improved over time.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Small feedstock producers shall be exempt from this criterion.

Minimum requirements:

- *Feedstock producers, feedstock processors, and biofuel producers shall implement practices that aim to reduce the GHG emissions of their feedstock and/or biofuel production.*

- *Biofuel blenders shall reduce the GHG intensity of their biofuel purchases over time by purchasing biofuels with lower average GHG lifecycle emissions compared to the previous three-year period.*

4. Principle 4: Human and Labour Rights

Principle 4. Biofuel production shall not violate human rights or labor rights, and shall promote decent work and the well-being of workers.

Guidance:

- *Labor rights are a sub-category of human rights and shall be the focus of this principle. Other human rights are referred to elsewhere in this standard. Workplace relations that are consistent with sustainable production require respect for basic workers' rights.*
- *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.*
- *This principle aims to address the fact that agricultural and informal workers are often excluded from labour law protection. Employees, contracted labour, small outgrowers, self-employed farmers, and employees of outgrowers shall all be guaranteed the rights described below.*
- *These rights shall apply equally to men and women.*
- *This principle aims to promote the UN goal of 'Decent work', which consists of four pillars: 1) employment generation and enterprise development; 2) social protection; 3) standards and rights at work; and 4) governance and social dialogue.*

Criterion 4.a Workers shall enjoy freedom of association, the right to organise, and the right to collectively bargain.

Operators who must comply : Feedstock Producer, Feedstock Processor, and Biofuel Producer and biofuel blenders.

Minimum requirements

- *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 this criterion.*
- *In countries where the law prevents collective bargaining or unionisation, 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.*

Criterion 4.b No slave labour or forced labour shall occur.

Operators who must comply : Feedstock Producer, Feedstock Processor, Biofuel Producer and biofuel blender.

Minimum requirements

- *The ILO's Forced Labour Convention (No. 29) and the ILO Abolition of Forced Labour Convention (105) shall provide the basis for the definitions under this criterion.*
-

Criterion 4.c No child labour 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.

Operators who must comply : Feedstock Producer, Feedstock Processor, Biofuel Producer and biofuel blender.

Minimum requirements

- *The ILO's Minimum Age Convention (No. 138) and Worst Forms of Child Labour Convention (No. 182) shall provide the basis for the definitions under this criterion.*
 - *Schooling age limit is that defined in the national legislation or 14, whichever is higher.*
 - *Hazardous child labour 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.*
-

Criterion 4.d Workers shall be free of discrimination of any kind, whether in employment or opportunity, with respect to wages, working conditions, and social benefits.

Operators who must comply : Feedstock Producer, Feedstock Processor, and Biofuel Producer.

Minimum requirements

- *The ILO's Discrimination (Employment and Occupation) Convention (No. 111) and Equal Remuneration Convention (No. 100) shall provide the basis for the definitions under this criterion. ILO Convention 111 defines discrimination as: "any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation";*
 - *Employees, contracted labour, small outgrowers, and employees of outgrowers shall all be free of discrimination as per ILO Convention 111.*
 - *Work sites must 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.*
-

Criterion 4e. Workers' wages and working conditions shall respect all applicable laws and international conventions, as well as all relevant collective agreements. Wages shall aim to be above poverty levels and equal to or better than the average conditions established for work of the same character or offered by comparable employers in the local market. Men and women shall receive equal remuneration for work of equal value.

Operators who must comply : Feedstock Producer, Feedstock Processor, Biofuel Producer and biofuel blenders.

Minimum requirements

- *Collective agreements are legal contracts between employers (or employer associations) and trade unions, which act as bargaining agents for units of workers. Their provisions govern terms and condition of employment, as well as the settlement of disputes internally between parties.*
 - *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.*
 - *The ILO's Equal Remuneration Convention (100) shall provide relevant definitions for this criterion.*
 - *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 hours worked per regular week must not exceed 48. In exceptional circumstances (for instance during peak production periods), workers may choose to work an additional 12 hours per week of overtime. Overtime shall be voluntary.*
-

Criterion 4.f Conditions of occupational safety and health for workers shall follow internationally-recognised standards.

Operators who must comply : Feedstock producer, Feedstock processor, Biofuel producer and biofuel blenders

Minimum requirements

- *The ILO's Occupational Safety and Health Convention (No. 155), the ILO's Safety and Health in Agriculture Convention (184), ILO Sectoral Activities Programme on conditions for wage workers in agriculture, and the World Health Organisation's London Declaration from the 3rd Ministerial Conference on Environment and Health shall form the basis for definitions for this criterion.*
 - *Workers shall not be exposed to any known or potentially harmful agrochemicals, pesticides, herbicides, or other chemical products used in biofuel production without adequate protection and training as defined in national law and international standards.*
-

Criterion 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.

Operators who must comply : Feedstock Producer, Feedstock Processor, Biofuel Producer and biofuels blenders

Progress requirements (required within three years of certification)

- *Operators shall identify where those working within the scope of their operational function (feedstock producer, feedstock processor, or biofuel producer) is contracted by outside parties and implement a mechanism to ensure that contracted workers are afforded the rights outlined in this principle.*

5. Principle 5: Rural and Social Development

Principle 5. In regions of poverty, biofuel production shall contribute to the social and economic development of local, rural and indigenous people and communities.

Guidance:

- *The socio-economic baseline survey completed under the ESIA guidelines in principle 2 shall determine if this principle applies to the operation (i.e. if the operation is in a region of poverty).*
- *The ESIA shall identify and document risks to livelihoods and opportunities for rural and social development as well as set clear measurable targets to give effect to this principle.*
- *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 enrolment ratios), and standard of living, as well as capturing social exclusion. Local Human Poverty Indicators can be developed as part of the ESIA, using existing tools available (UNDP, Development Banks, FAO).*
- *Small feedstock producers that employ workers shall comply with this principle, as shall medium and large Operators.*
- *Operators shall work closely with national, provincial and/or local governments and programmes to apply this principle.*

Criterion 5.a In regions of poverty, the socioeconomic status of local stakeholders impacted by biofuel production shall be improved (criterion for operations located in regions of poverty).

Operators who must comply: Feedstock producer, Feedstock processor, Biofuel producer

Minimum requirements

- *In areas where the socioeconomic baseline survey undertaken in the ESIA 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. However, if in such regions the ESIA indicates that mechanisation is the optimal choice from an environmental, economic, and social perspective, any transition from labour intensity to mechanization shall be done in a fair and equitable way for existing workers and shall not lead to a decrease in average household income and in the local*

communities. International best practice on dealing with the transition from labour intensity to mechanization shall be applied

- *Measured improvements in the social and economic indicators as set against the baseline assessment of 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.*
- *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, for instance by allowing time for the workers to continue with subsistence and livelihood activities such as farming, fishing, hunting, gathering, etc.*
- *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, these include, but are not limited to the following:*
 - a. *Creation of year round and/or long term jobs*
 - b. *The establishment of governance structures that support empowerment of small scale farmers and rural communities such as co-operatives and micro credit schemes*
 - c. *Use of the locally produced bio-energy to provide modern energy services to local poor communities*
 - d. *Shareholding options, local ownership, joint ventures and partnerships with the local communities*
 - e. *Social benefits for the local community such as the building or servicing of clinics, homes, hospitals and schools.*

Criterion 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 (criterion for operations located in regions of poverty.).

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer

Progress requirements

- *Training and capacity building shall be required to give effect to this principle. Such training is required for both the workers and also for management that oversees employment protocols and supervision*
- *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 base line studies*
- *Special measures can include but are not limited to the following:*
 - a. *Development of value added industries that are operated and managed by women and youth*
 - b. *Specification of jobs that are suitable for workers that are considered vulnerable and/or unable to do hard manual labour*

- c. *Ensuring that women, youth and the vulnerable are given ample opportunity to apply for work, through careful attention of the ways jobs are advertised and interviews are conducted*

6. Principle 6: Local Food Security

Principle 6. Biofuel production shall ensure the right to adequate food and improve food security in food insecure regions

Guidance:

- *The definition of food security shall be that of the World Food Summit held in 1996: “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”*
- *The definition of right to adequate food shall be that of the International Covenant on Economic Social & Cultural Rights (ICESCR): The right to adequate food is a human right, inherent in all people, “to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of people to which the consumer belongs, and which ensures a physical and mental, individual and collective fulfilling, and dignified life free of fear.”*
- *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 addressed in this standard but will be addressed in separate policies and strategies of the RSB.*

Criterion 6a. Biofuel production shall assess risks to food security in the region and locality and shall mitigate any negative impacts that result from biofuel production

Operators who must comply: Feedstock Producer (when growing energy-only crops), Feedstock Processor (when in the same region as the feedstock producer and processing energy-only crops), Biofuel Processor (when in the same region as producer or processor).

Minimum requirements

- *The scoping exercise outlined in Principle 2 shall include an assessment of status of food security in the region.*
- *If the scoping exercise indicates an increased risk to food security as a result of the biofuel operations, the Operator shall adequately determine the risk through performing a baseline assessment in the region and the locality of the operations.*
- *The definition for “region” shall consider geographic, political and environmental boundaries and market structures*
- *The scoping and baseline assessment shall assess how each of the four pillars of food security as defined by FAO (accessibility, availability, utilisation 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. Both access and availability might also be positively affected if the biofuel operation provides an increase in production of staple foods preferred by local people. The impacts on **utilization** shall be assessed based on the ability of local people to utilize the available food due to changes in availability of cooking fuels. For instance, biofuel co-products may be usable as local energy sources and thus improve people's ability to cook food, or they may remove energy sources (e.g. wood residues) from the region and decrease utilization. **Stability** impacts will be assessed by analyzing the impacts the biofuel operations may have over a longer time period based on periodic weather events or potential shocks the region may suffer that are of a reasonably predictable nature based on historical events.

- The scope of the assessment shall include additional impacts the biofuel operations may have on cross-cutting requirements for food security including land, water, labour, and infrastructure.
- The ESIA shall include both the risk assessment and a mitigation strategy if necessary. The risk assessment shall detail if the risks and challenges form part of a persistent and protracted crisis or a short-term shock, as the response measures will differ significantly.
- 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.

Criterion 6b. In food insecure regions, biofuel production shall enhance local food security.

Operators who must comply: Feedstock Producer (when growing energy-only crops), Feedstock Processor (when in the same region as the feedstock producer and processing energy-only crops), Biofuel Processor (when in the same region as producer or processor).

Minimum requirements

- In regions where food security is an ongoing risk and concern, Operators shall enhance food security in the region 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 programmes 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.

7. Principle 7: Conservation

Principle 7. Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and High Conservation Value areas.

Guidance:

- Whenever biofuel blenders are mentioned in the scope of the following criteria, the requirements shall only apply to the infrastructures that are purposefully built for biofuel handling and transport (e.g. biofuel-specific pipeline).
- High Conservation Value (HCV) areas are those defined by the HCV Network:

- a. **HCV1**, Areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).
 - b. **HCV2**, Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
 - c. **HCV3**, Areas that are in or contain rare, threatened or endangered ecosystems.
 - d. **HCV4**, Areas that provide basic ecosystem services in critical situations (e.g. watershed protection, erosion control).
 - e. **HCV5**, Areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
 - f. **HCV6**, Areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities), as well as critical areas in other landscapes which need to be managed appropriately to maintain or enhance.
- Impacts on natural ecosystems also include any decrease in connectivity between the various ecosystems surrounding the area of production.
-

Criterion 7.a High Conservation Value areas, native ecosystems, buffer zones, ecological corridors and other public and private biological conservation areas shall be identified and protected.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

7.a.1 Minimum requirements

- *HCV areas, native ecosystems, buffer zones, ecological corridors and public and private biological conservation areas that are not yet legally protected can only be exploited for biofuel production as long as conservation values are left undamaged, and can in no case be converted to plantation, farm or any other commercial land use after the January 1, 2009. Earlier cut-off dates for conversion already established for mainstream feedstock sustainability standards shall be respected, including but not limited to: Forest Stewardship Council¹ for wood products (November 1994), Roundtable for Responsible Soy² (to be decided), and the Roundtable on Sustainable Palm Oil³ (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). The full list of cut-off dates for feedstock sustainability standards and national or regional mandates is available in annex.*
- *The national interpretation, identification and mapping of HCVs and HCV areas is being undertaken by governmental, inter-governmental, or conservation organizations, as part of larger processes involving non-biofuel sectors. The list of countries having achieved a national interpretation and identification of HCV areas is available from the HCV Network. Mapped areas that have been identified as important by national or international processes are also*

¹ <http://www.fsc.org>

² <http://www.responsiblesoy.org>

³ <http://www.rspo.org>

likely to be HCV areas, including: Key Biodiversity Areas, Alliance for Zero Extinction Areas, Important Bird Areas, Natuur 2000 areas, World Heritage Sites, and areas of recognised importance for IUCN Red List species. When such information exists, Operators must refer to it to determine the conservation value of potential areas of production.

- Whenever such information does not exist, the Operator shall use the appropriate HCV toolkits to identify HCV areas. Local stakeholders shall be involved in the process.
- If the Operator is unable to implement an HCV toolkit, the Operator shall use the Integrated Biodiversity Assessment Tool (IBAT) and, in addition, identify any economic or cultural use of the area of concern by local communities. Local stakeholders shall be involved in the process. Whenever the area of concern is identified through the implementation of the IBAT as important for biodiversity, the restrictions on exploitation included in this criterion and associated guidance shall apply.
- The identification of High Conservation Value areas, native ecosystems, buffer zones, ecological corridors and other public and private biological conservation areas shall be included in the Environmental and Social Impact Assessment described in Principle 2.
- High Conservation Value areas, buffer zones, ecological corridors and other public and private biological conservation areas that were degraded before the 1st of January 2009 but are recovering shall not be converted for biofuel production.
- Hunting, fishing, ensnaring, poisoning and exploitation of rare, threatened, endangered and legally protected species are prohibited on the production site.

7.a.2 Progress requirements (medium and large operators only)

- Compensation of negative impacts on HCV areas, buffer zones, ecological corridors and public and private biological conservation areas having occurred between the 1st of January 2004 and December 31, 2008 and for which the operator is directly accountable
- Contribution to the HCV identification and mapping process in the region of production (if not already conducted).

Criterion 7.b Ecosystem functions and services shall be maintained.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Minimum requirements

- Operators shall implement a management plan that aims to maintain ecosystem functions and services both inside and outside the production site that may be directly affected by biofuel production.
- Ecosystem (ecological) functions are defined as in FSC criterion 6.3: “[ecosystem] regeneration and succession; genetic, species, and ecosystem diversity and; natural cycles that affect the productivity of the (. . .) ecosystem.”
- Ecosystem services are provisioning (e.g food, freshwater, energy), regulating (e.g. climate, flood, disease regulation) and supporting (nutrient cycling, soil formation, primary production) services obtained by people from ecosystems, as described in the Millennium Ecosystem Assessment’s Synthesis on Ecosystems and Human Well-Being.

- *Specific ecosystem functions and services relevant to an area of production shall be locally identified by operators as part of the Environmental and Social Impact Assessment and periodic monitoring described in Principle 2.*
-

Criterion 7.c Buffer zones shall be protected, restored or created.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

Minimum requirements

- *Existing buffer zones within the production site shall be protected and remain unexploited.*
 - *Existing buffer zones between the production site and the surrounding areas shall be protected or created.*
 - *Any buffer zone destroyed between the 1st of January 2004 and the 31st December 2008 on or near the production site and for which the Operator is directly accountable shall be restored by the Operator.*
 - *Within the production site, buffer zones shall be created around any HCV areas, native ecosystems, ecological corridors and public and private biological conservation areas, and remain unexploited.*
 - *The size and 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.*
-

Criterion 7.d Ecological corridors shall be protected, restored or created to minimize fragmentation of habitats.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer, and Biofuel Blender.

7.d.1 Minimum requirements

- *Ecological corridors within the production site should be set-aside with appropriate surrounding buffer zones and in no case exploited after the 1st of January 2009.*
- *Whenever the production site impairs the connectivity between surrounding ecosystems, ecological corridors shall be created by the operator.*
- *Ecological corridors are considered equivalent to “habitat corridors”, “biological corridors”, and wildlife corridors”.*

7.d.2 Progress requirements (Medium and large operators only)

- *New ecological corridors shall be created within the production site if it is surrounded by areas containing wildlife; ecological corridors destroyed prior to the cut-off date and for which the operator is directly accountable shall be restored.*
-

Criterion 7.e Biofuel production shall not use crop species considered invasive under local conditions.

Operators who must comply: Feedstock Producer.

Minimum requirements

- Operators shall not use any species officially recorded as representing a high risk of invasiveness in the country of operation.
- Whenever the species of interest is not recorded as significantly invasive and/or prohibited in the country of operation, the following procedure shall apply:
 - a. For new projects or when switching crops in an existing project: Whenever the Operator intends to use a species recorded in the Global Invasive Species Database (GISD)⁴, a risk assessment of the invasiveness of this species in the local context shall be completed prior to any planting or spreading (e.g. by transporting seeds) of the crop of concern in the case of new projects.
 - b. For existing projects, such assessment shall be completed as part of the ESIA required under Principle 2.
- The Operator shall follow the procedure for invasiveness/weed risk assessment that exists in the country of operation. If no such procedure exists in the country of operation, the Operator shall use the Invasive Species Assessment Protocol⁵ the Pest Risk Analysis developed by the EPPO⁶, the Australian Weed Risk Assessment process⁷, the Weed Risk Assessment for Hawaii and Pacific Islands Process⁸ or any risk assessment procedure accepted by the RSB.
- Following the risk assessment, the operator shall not use the species a) if the risk assessment provides evidence of the species' invasiveness in the local context; b) if the risk assessment fails to provide evidence of the species' non-invasiveness in the local context, following the precautionary approach (i.e. in absence of clear results).

8. Principle 8: Soil

Principle 8: Biofuel production shall implement practices that seek to maintain soil health and reverse degradation.

Guidance:

- The baseline condition of the production site's soil shall be determined during the Environmental and Social Impact Assessment described under Principle 2.

Criterion 8.a Feedstock producers shall implement a soil management plan designed to maintain or improve soil physical, chemical, and biological conditions.

⁴ <http://www.issg.org/database>

⁵ <http://www.natureserve.org/library/invasiveSpeciesAssessmentProtocol.pdf>

⁶ http://www.eppo.org/QUARANTINE/Pest_Risk_Analysis/PRA_intro.htm

⁷ <http://www.daff.gov.au/ba/reviews/weeds/system>

⁸ <http://www.botany.hawaii.edu/faculty/daehler/WRA/>

Operators who must comply: Feedstock Producers

8.a.1 Minimum requirements

- *Soil erosion shall be minimized through the design of the plantation or 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.*
- *None of the chemicals recorded in the WHO's 1a and 1b lists shall be used. The full guidance on the use of chemicals can be found under principle 11 (Technologies).*
- *The use of agrarian and forestry residual products for biofuel production, including lignocellulosic material, shall not be at the expense of long-term soil stability and organic matter content, except if the operator is able to implement mitigation practices that do not infringe on any of the principles and criteria included in the standard, e.g. mitigating practices included in the "Sustainable Forestry for Bioenergy and Bio-based Products" toolkit from the US National Learning Center for Private Forest and Range Landowners⁹.*
- *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).*

For medium and large feedstock producers:

- *A soil management plan shall be implemented that includes practices that prevent or reverse degradation over the long term.*
- *The soil management plan 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 and on a reasonable timeline. Follow-up indicators shall focus on the implementation of good practices (see guidance document to be provided in an Annex), but periodic sampling of soil on the 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.*

For small holder producers:

- *Smallholders shall be able to demonstrate implementation of practices aiming to maintain and enhance soil organic matter.*

8.a.2 Progress requirements

⁹ <http://forestandrange.org/Biomass/Modules/Module%206/Final%20biodiversity%20table%20April%2009.pdf>

- *For annual crops, medium and large scale feedstock producers shall implement Conservation Agriculture practices as defined by the FAO, including:*
 - Organic direct planting*
 - Permanent soil cover*
 - Crop rotation*
- *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 within 3 years after certification (See full guidance on chemicals under principle 11).*

9. Principle 9: Water

Principle 9. Biofuel production shall maintain or enhance the quality and quantity of surface and ground water resources, and respect prior formal or customary water rights.

Guidance:

- *The quality of water resource covers freshwater, wetlands, and seawater (criteria 9.a, 9.b and 9.d). The quantity of water resource covers freshwater and wetlands (criterion 9.c).*
- *Formal and customary water rights are those given either through license by national/local authorities or by prior rights or customs.*
- *“Waste water” is the water that comes out of the production chain; “runoff” is surface water that escapes from the feedstock production site toward adjacent areas.*

Criterion 9.a Biofuel production shall respect the existing water rights of local and indigenous communities and water needs for the long-term sustainability of ecosystems.

Operators who must comply: Feedstock producers, feedstock processors, biofuel producers.

Minimum requirements

- *The use of water for biofuel production shall not be at the expense of the water needed by ecosystems or the communities that rely on the same water for subsistence.*
- *Water resources under legitimate dispute shall not be used for biofuel or feedstock production or processing until any legitimate disputes have been settled through Free, Prior and Informed Consent and negotiated agreements with affected stakeholders.*
- *Legitimacy of the dispute shall be determined by the auditor against guidelines established by the RSB.*

For new and expanding medium and large-scale projects:

- *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 basic 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 the operation 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.*

For small-scale projects:

- *The potential impacts of operations on water availability shall be assessed within the local community and ecosystems, and any negative impacts mitigated.*
-

Criterion 9.b Biofuel production 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 production.

Operators who must comply: Feedstock producers, feedstock processors, biofuel producers

9.b.1 Minimum requirements

- *Operators shall implement a water management plan that:*
 - 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.*
 - 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.*
 - Includes an estimate of potential runoff nature and volumes through the production chain and the natural compartment or collectors affected by these runoffs.*
 - Includes measures to reduce water consumption and contamination at the most critical steps.*
- *Where watershed impact assessments are required by law, the process for compliance with law shall be integrated with this criterion to avoid duplication of efforts, as long as the content requirements outlined in this standard are included.*
- *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 not contradict any local or regional water management plans.*
- *The operator shall undertake an annual monitoring of the success of the implementation of the water management plan. All the areas within and outside the production site and/or which receive direct runoff shall be monitored and any negative impacts mitigated.*

9.b.2 Progress requirements:

- *The water management plan shall include steps for reusing or recycling waste water, appropriate to the scale and intensity of production.*
-

Criterion 9.c Biofuel production shall not withdraw surface or groundwater resources beyond replenishment capacities.

Operators who must comply: Feedstock Producers, Feedstock Processors, Biofuel Producers.

9.c.1 Minimum requirements

- *This criterion does not apply to seawater resources.*
- *Water used for irrigation, feedstock processing, or biofuel production 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 Environmental and Social Impact Assessment outlined in Principle 2 on a yearly basis.*
- *Based on 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 production 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 production systems shall not be established in long-term freshwater-stressed areas, unless the implementation of:*
 - good practices or*
 - an adequate mitigation process that does not contradict other requirements in this standard**ensures that the water level remains stable.*
- *Large-scale operators shall not withdraw water from natural watercourses (e.g. a river) to an extent that modifies its natural trajectory or its original physical, chemical and biological equilibrium.*
- *The Operator shall demonstrate commitment to the improvement of water efficiency over time. If an area becomes fresh-water stressed, good practices that minimize water use shall be implemented.*

9.c.2 Progress requirements (medium and large operators only)

Wherever applicable, operators shall contribute to the replenishment of local water tables and/or invest in local water conservation projects.

Criterion 9.d The quality of the surface and groundwater resources that are used for biofuel production shall be maintained or enhanced.

Operators who must comply: Feedstock Producers, Feedstock Processors, Biofuel Producers

9.d.1 Minimum requirements

- *The quality of surface and ground water resources is described by their physical, chemical and biological parameters, which will be specified in an Annex. 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.*
- *Feedstock production and processing, as well as biofuel production, 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 production 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 or periodic monitoring (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 production site and surface or ground water resources. Waste water shall be adequately managed and, whenever possible, recycled.*
- *Further guidance regarding waste management and use of chemicals are outlined in principle 11).*

9.d.2 Progress requirements:

- *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, medium and large 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 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).*

10. Principle 10: Air

Principle 10. Air pollution from biofuel production shall be minimized along the supply chain.

Guidance:

- *This principle aims to identify and minimise sources of pollution along the supply chain, with regards to the availability of technologies in the local context and the Operator's ability to use them.*

Criterion 10.a Air pollution emission sources from biofuel production shall be identified, and air pollution minimized.

Operators who must comply: Feedstock producer, feedstock processor, biofuel producer, biofuel blender.

10.a.1 Minimum requirements

- *An emission control plan appropriate to the scale and intensity of production shall be in place regarding major air pollutants including carbon oxides, nitrogen oxides, volatile organic compounds, particulate matter, sulphur compounds, dioxins and other compounds 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.*
- *The use of ground or aerial pesticides shall comply with the FAO's Guidelines on Good Practices for Ground and Aerial Applications of Pesticides (See full guidance on chemicals under Principle 11).*

10.a.2 Progress requirements

The Operator shall investigate and, whenever possible in the local context, implement Better Management Practices (BMP) or Best Available Technology (BAT) to reduce air pollution, appropriate to the scale and intensity of operation. Better Management Practices and Best Available Technology are accepted and practical installation and production techniques intended to prevent environmental emissions in industrial and agricultural settings. The RSB shall provide references for information on BMPs and BATs for biofuel production. The availability and affordability of technologies for air pollution reduction in the country of operation shall be considered by the certifier to assess compliance with this criterion.

Criterion 10.b Biofuel production shall avoid and, where possible, eliminate open-air burning of residues, wastes or by-products. Good practices for contained burning of residues, wastes or by-products shall be used to maintain emissions of air pollutants below national and international norms.

Operators who must comply: Feedstock Producers, Feedstock Processors, Biofuel Producers, Biofuel Blenders

10.b.1 Minimum requirements

- *Agricultural residues, wastes or byproducts are those generated through feedstock production; processing residues, wastes or by-products are those generated through feedstock processing, biofuel production and biofuel blending.*
- *Open- air burning of agricultural residues, wastes and by-products shall only occur when no viable alternative is available or affordable in the local context.*
- *A plan shall be put in place to phase out any open-air burning of leaves, straw and other agricultural residues. In specific situations such as those described in the ASEAN guidelines and other relevant policies, if workers' health and safety is at stake (for instance in manual sugarcane harvesting), 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. switchgrass), limited open-air burning practices may occur. These situations shall be outlined by the RSB in a separate Annex.

- *Any open-air burning shall be taken into account in the Greenhouse Gas lifecycle analysis conducted under Principle 3.*

10.b.2 Progress requirements (medium and large scale operators only):

- *Measures shall be taken to collect heat from burning processing wastes and by-products in order to generate electricity or heat, appropriate to the scale and intensity of operation. Such burning shall always occur in an appropriate infrastructure to minimise air pollution from carbon oxides, nitrogen oxides, volatile organic compounds, particulate matter, sulphur compounds, dioxins and other compounds recognised as potentially harmful for the environment or human health. Solid residues from burning shall be disposed following national guidelines.*
- *All infrastructures needed to prevent air emissions beyond national regulations shall be in place.*
- *Open air burning of agricultural residues and by-products shall not occur, except in the cases formulated in the guidance.*

11. Principle 11: Use of Technology, Inputs, and Management of Waste

Principle 11. The use of technologies in biofuel production shall seek to maximize production efficiency and social and environmental performance, and minimize the risk of damages to the environment and people.

Guidance:

- *The purpose of this principle is to address the use of technologies that might pose a risk to people or the environment.*
- *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)¹⁰*
- *The RSB makes no recommendation regarding the use of specific technologies, but requires that the use of technologies along the value chain improve production efficiency and exhibit social and environmental benefits, while minimizing the risk of damages to the environment and people.*
- *Nothing in this principle should be interpreted as evidence of a standard of care in cases involving allegations of producer negligence.*

Criterion 11.a Information on the use of technologies in biofuel production shall be fully available, unless limited by national law or international agreements on intellectual property.

¹⁰ <http://www.saicm.org>

Operators who must comply: Feedstock Producers, Feedstock Processors, Biofuel Producers, Biofuel Blenders

Minimum requirements

- *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 identify the use of and make available to the public information about potential hazards related but not restricted to Genetically Modified Organisms (GMO) when such technology is used. 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.*
-

Criterion 11.b The technologies used in biofuel production 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.

Operators who must comply: Feedstock Producers, Feedstock Processors, Biofuel Producers, Biofuel Blenders

Minimum requirements

- *The use of genetically modified organisms shall follow relevant national or international guidelines, laws and agreement, including crop-specific stewardship systems, and local and community coexistence agreements or understandings.*
- *Operators shall provide evidence that the technologies they use do not contradict any of the RSB principles and criteria; for new projects, such evidence shall be provided before the beginning of operation.*
- *Improved environmental performances include, for instance, lower water consumption or decreased use of chemical inputs (fertilisers, pesticides), as compared to common practices in the local context.*
- *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).*
- *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.*
- *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 completion of a risk assessment and the setting of an appropriate mitigation strategy. Documentation of 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).*
-

Criterion 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.

Operators who must comply: Biofuel Processors, Biofuel Producers.

Minimum requirements

- *In no case shall genetically modified micro-organisms or any micro-organisms that pose a risk (pathogenic, mutagenic, contaminant, etc.) to human health or the environment be released outside the processing/production unit. Any such organism used for processing shall be destroyed or adequately neutralised (i.e. loss of any potentially hazardous character) before being disposed.*
 - *The Operator shall implement a plan that includes adequate monitoring and an emergency procedure in case of accidental dissemination of any such micro-organisms into the environment.*
-

Criterion 11.d Good practices shall be implemented for the storage, handling, use, and disposal of chemicals.

Operators who must comply: Feedstock Producers

11.d.1 Minimum requirements

- *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 production shall be in accordance with the manufacturer's safety instructions.*

11.d.2 Progress requirements

- *None of the chemicals recorded in Annex III of the Rotterdam Convention or in the Stockholm Convention on Persistent Organic Pollutants shall be used within three years after certification.*
-

Criterion 11.e Residues, wastes and byproducts from feedstock processing and biofuel production units shall be managed such that soil, water and air physical, chemical, and biological conditions are not damaged.

Operators who must comply: Feedstock processors, biofuel producers.

11.e.1 Minimum requirements

- *A waste and byproduct management plan shall exist such that wastes and byproducts are handled and/or disposed of in appropriate containers to prevent any environmental contamination and damage to human health.*
- *Residues and wastes are any liquid, solid or gaseous material produced during feedstock processing or biofuel production, with little to no economic value (IPCC definition).*
- *Byproducts are any liquid, solid or gaseous material produced during feedstock processing or biofuel production, with a lower economic value than the main product (IPCC definition).*
- *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 verifiable by the absence of related warning and recommendation from 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.*
- *Burning of wastes or byproducts shall be used as much as technically possible for electricity or heat generation (e.g. in a boiler) and with authorisation from local authorities. Such burning shall always occur in an appropriate facility to minimise air pollution from carbon oxides, nitrogen oxides, volatile organic compounds, particulate matter, sulphur compounds, dioxins and other compounds recognised as potentially harmful for the environment or human health, except as provided for under Principle 10. Solid residues from incineration shall be disposed of such that soil and water conditions are not damaged or according to national regulations.*
- *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.*

11.e.2 Progress requirements

- *For medium and large scale operators, byproducts or wastes shall 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.*
- *For all operators, byproducts or wastes shall not be burned except for cogeneration purposes and in an appropriate structure following national directives to reduce air pollution.*

12. Principle 12: Land Rights

Principle 12. Biofuel production shall respect land rights and land use rights.

Guidance:

- *The terms “land rights” and “land use rights” mean any form of land tenure, whether formal or informal or used through customary rights or traditions.*
 - *“Land use” means any land use, whether for commercial, agricultural, livelihood support, tourism and conservation, leisure use, pastoralism, industrial, or residential purposes, with or without recognizable land rights.*
 - *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.*
 - *Ensuring compliance with this principle shall be part of the Environmental and Social Impact Assessment described under Principle 2, which ensures participatory processes.*
 - *The UN Comprehensive Human Rights Guidelines on Development-Based Displacement shall provide a basis for the implementation of this principle.*
-

Criterion 12.a Existing land rights and land use rights shall be assessed, documented, and established. The right to use land for biofuel production or processing of feedstock for biofuel shall be established.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer.

Minimum requirements

- *The ESIA described in Principle 2 shall determine land rights and land use rights through a participatory process.*
- *Land under legitimate dispute shall not be used for biofuel or feedstock production or processing until any legitimate disputes have been settled through Free, Prior and Informed Consent and negotiated agreements with affected land users.*

Legitimacy of the dispute will be determined by the auditor against guidelines established by the RSB. Court rulings regarding legitimacy of disputers shall be respected, but the fact that a dispute is in legal process does not necessarily define it as legitimate.

Criterion 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 production.

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer.

Minimum requirements

- *Coercion to alter existing land rights or land use rights shall not be allowed in biofuel production.*
- *The 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.*
- *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. The World Bank Operational Policy on Involuntary*

Resettlement Complaints (OP4.12) shall be used for determining the basis for compensation if resettlement is required. This compensation 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.

- *Compensation practices as defined by the World Bank and FAO shall be the reference for internationally-accepted standards. The RSB will reference specific practices in the ESIA guidance document.*
 - *Where the rule of law is not adequately applied, international and regional legal bodies shall be consulted for rulings and information on disputes.*
 - *Biofuels production shall provide for independent legal advice for communities who do not have the resources to represent their own interests in disputes related to the operations.*
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Criterion 12.c Biomass production shall ensure no issues relating to use rights, land rights or traditional rights including issues of equitable compensation are pending

Operators who must comply: Feedstock Producer, Feedstock Processor, Biofuel Producer.

Minimum requirements

- *If there are disputes about the tenure agreements of the land among stakeholders, biofuel production shall not be approved*