

## Biofuels Life Cycle Assessment Ordinance (BLCAO) – Swiss Confederation

<b>Country/ Organization</b>	The Federal Department of the Environment, Transport, Energy and Communications (DETEC), Swiss Confederation.	<b>Year and status</b>	2009; in implementation
<b>Initiative</b>	DETEC Ordinance on Proof of the Positive Aggregate Environmental Impact of Fuels from Renewable Feedstocks (Biofuels Life Cycle Assessment Ordinance, BLCAO)		
<b>Membership</b>	-		
<b>Governing bodies</b>	DETEC		
<b>Type and implementation approach</b>	Legislation	<b>Geographical coverage</b>	Swiss Confederation (including imports)
<b>Feedstock(s) covered</b>	All	<b>Supply chain coverage</b>	Biofuel feedstock production, processing, and biofuel transportation/distribution and use
<b>Type(s) of biofuels covered</b>	All		
<b>Link</b>	<a href="http://www.admin.ch/ch/e/rs/6/641.611.21.en.pdf">http://www.admin.ch/ch/e/rs/6/641.611.21.en.pdf</a>		

### Overview.

In 2009, the Federal Department of the Environment, Transport, Energy and Communications (DETEC) of the Swiss Confederation adopted the Ordinance on Proof of the Positive Aggregate Environmental Impact of Fuels from Renewable Feedstocks, also known as “Biofuels Life Cycle Assessment Ordinance (BLCAO)”. This Ordinance defines how an applicant must prove the positive aggregate environmental impact of fuels from renewable feedstocks (fuels) so as to be granted tax relief in accordance with Article 19a paragraph 1 MinOTO. Mineral Oil Tax Ordinance of 20 November 19961 (MinOTO).

The Ordinance consists of 18 articles, which address the following environmental aspects/issues:

- threats to rainforests and biological diversity;
- compliance with environmental regulations concerning air pollution, soil, water, groundwater and biodiversity protection, and protection against invasive species;
- good agricultural practices in feedstock cultivation, particularly concerning the selection of appropriate soils and crop species, the use of plant protection products and fertilisers, and cultivation and harvesting techniques;
- waste management; and
- greenhouse gas emissions throughout the entire life cycle.

For citation:

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

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

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**ASPECTS/ISSUES**

**ARTICLES**

**1. ENVIRONMENTAL**

1.1 Land-use change (direct and/or indirect)

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Section 2: Requirements for Proof of Positive Aggregate Environmental Impact

Article 4: Threats to rainforests and biological diversity

The applicant must provide information on:

- a. the origin of the feedstocks used, including the exact name and a characterisation of the sites where they are cultivated;
- b. the use of the cultivated area between 1 January 2004 and the date of feedstock cultivation or, as of 1 January 2014, in the ten years preceding feedstock cultivation;
- c. the environmental regulations applicable to the area where the feedstocks are cultivated, including those concerning air pollution control, protection of soil, water, groundwater and biological diversity and protection against invasive species, as well as information on compliance with these regulations;
- d. the observance of good agricultural practices in feedstock cultivation, particularly information on the careful use of plant protection products and fertilisers, on the cultivation and harvesting techniques employed, including crop rotations to maintain soil quality and prevent erosion, and on the selection of appropriate soils and crop species for cultivation.

[Also relevant to aspect(s)/issue(s):

[1.2](#) Biodiversity and ecosystem services;

[1.3](#) Productive capacity of land;

[1.4](#) Crop management and agrochemical use;

[1.5](#) Water availability and quality;

[1.7](#) Air quality; and

[3.1](#) Compliance.]

Section 3: Assessment Procedure

Article 12: Assessment of threats to rainforests and biological diversity

1. The FOEN assesses whether rainforests and biological diversity are endangered by the cultivation of the feedstocks.

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<p>1.1 Land-use change (direct and/or indirect) (continued)</p>	<p>2. They are endangered in every case if:</p> <ul style="list-style-type: none"> <li>a. cultivation occurs within nationally or internationally designated protected areas;</li> <li>b. cultivation occurs in areas that were part of ecosystems of particular conservation value, such as forests, wetlands and grasslands of great biological diversity, provided the conversion into a cultivated area occurred after 1 January 2004 or, as of 1 January 2014, in the ten years preceding the cultivation of the feedstocks;</li> <li>c. the environmental regulations applicable to the area where the feedstocks are cultivated, in terms of <a href="#">Article 4 letter c</a>, are not complied with; or if</li> <li>d. the good agricultural practices in terms of <a href="#">Article 4 letter d</a> is not observed in the cultivation of the feedstocks.</li> </ul> <p>[Also relevant to aspect(s)/issue(s):  <a href="#">1.2</a> Biodiversity and ecosystem services;  <a href="#">1.3</a> Productive capacity of land;  <a href="#">1.4</a> Crop management and agrochemical use;  <a href="#">1.5</a> Water availability and quality;  <a href="#">1.7</a> Air quality; and  <a href="#">3.1</a> Compliance.]</p>
<p>1.2 Biodiversity and ecosystem services</p> <p><a href="#">Back to table of contents</a></p>	<p>See <a href="#">Article 4(c)</a> on compliance with regulations on biological diversity and invasive species, and <a href="#">Article 4(d)</a> on selection of appropriate crop species at aspect/issue 1.1 Land-use change (direct and/or indirect).</p> <p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact            Article 8: Specific ecological benefits</p> <p>In addition, the applicant may provide information on specific ecological benefits of the production process, particularly on measures that:</p> <ul style="list-style-type: none"> <li>a. enhance biological diversity;</li> <li>b. enhance soil fertility;</li> <li>c. protect non-renewable water resources.</li> </ul> <p>[Also relevant to aspect(s)/issue(s):  <a href="#">1.3</a> Productive capacity of land; and  <a href="#">1.5</a> Water availability and quality.]</p>

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ASPECTS/ISSUES	ARTICLES
1.2 Biodiversity and ecosystem services (continued)	See <a href="#">Article 12(2)(a)</a> on cultivation within protected endangering rainforests and biodiversity if, and <a href="#">Article 12(2)(b)</a> on cultivation in ecosystems of particular conservation value at aspect/issue 1.1 Land-use Change (direct and/or indirect).
1.3 Productive capacity of land	See <a href="#">Article 4(c)</a> on compliance with regulations on soil protection, and <a href="#">Article 4(d)</a> on cultivation and harvesting techniques for soil quality and erosion prevention at aspect/issue 1.1 Land-use change (direct and/or indirect).
	See <a href="#">Article 8(b)</a> on ecologically benefiting measures that enhance soil fertility at aspect/issue 1.2 Biodiversity and ecosystem services.
	See <a href="#">Article 12(2)(c)</a> on non-compliance with regulations on soil protection and <a href="#">Article 12(2)(d)</a> on non-observance of good agricultural practices related to soil quality and erosion at aspect/issue 1.1 Land-use change (direct and/or indirect).
1.4 Crop management and agrochemical use  <a href="#">Back to table of contents</a>	See <a href="#">Article 4(d)</a> on good agricultural practices related to plant protection products and fertilisers use at aspect/issue 1.1 Land-use change (direct and/or indirect).
	Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 5: Feedstock cultivation  The applicant must provide information on: a. the crop rotation employed in the cultivated area; b. the quantitative and economic yields of the crop species used; c. the types and quantitative and economic yields of the by-products and wastes generated during harvesting; d. the cultivation and harvesting techniques, stating machine usage and energy sources used; e. the types and quantities of fertilisers and plant protection products used; f. the irrigation techniques employed, as well as the quantity of water consumed and the type of water resource used.  [Also relevant to aspect(s)/issue(s): <a href="#">1.5</a> Water availability and quality; and <a href="#">1.8</a> Waste management.]
	See <a href="#">Article 12(2)(d)</a> on non-observance of good agricultural practices related to plant protection products and fertilisers use endangering rainforests and biodiversity
1.5 Water availability and quality	See <a href="#">Article 4(c)</a> on compliance with regulations on protection of water and groundwater at aspect/issue 1.1 Land-use change (direct and/or indirect).

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ASPECTS/ISSUES	ARTICLES
1.5 Water availability and quality (continued)	See <a href="#">Article 5(f)</a> on applicant’s reporting on irrigation techniques, quantity and type of water resource used at aspect/issue 1.4 Crop management and agrochemical use.
	See <a href="#">Article 8(b)</a> on ecologically benefiting measures that protect non-renewable water resources at aspect/issue 1.2 Biodiversity and ecosystem services.
	See <a href="#">Article 12(2)(c)</a> on non-compliance with regulations on water and groundwater protection endangering rainforests and biodiversity at aspect/issue 1.1 Land-use change (direct and/or indirect).
1.6 GHG emissions	See <a href="#">Article 6(g)</a> on applicant’s reporting on greenhouse gases released during fuel production at aspect/issue 3.1 Compliance.
	Section 3: Assessment Procedure Article 14: Comparison of greenhouse gas emissions with those from fossil fuels  Based on the greenhouse gas inventory (Art. 13, paragraph 1 <sup>1</sup> ), the FOEN assesses whether the fuels give rise to at least 40 per cent less greenhouse gas emissions than petrol of fossil origin.
1.7 Air quality	See <a href="#">Article 4(c)</a> on compliance with regulations on air pollution control at aspect/issue 1.1 Land-use change (direct and/or indirect).
	See <a href="#">Article 12(2)(c)</a> on non-compliance with regulations on air protection endangering rainforests and biodiversity at aspect/issue 1.1 Land-use change (direct and/or indirect).
1.8 Waste management	See <a href="#">Article 5(c)</a> on applicant’s reporting on types, quantitative and economic yields of by-products and wastes during harvesting at aspect/issue 1.4 Crop management and agrochemical use.
	See <a href="#">Article 6(g)</a> on applicant’s reporting on wastes generated during fuel production and their management at aspect/issue 3.1 Compliance.
1.9 Environmental sustainability  <a href="#">Back to table of contents</a>	See <a href="#">Article 6(g)</a> on applicant’s reporting on environmental pollutants released during fuel production at aspect/issue 3.1 Compliance.
	Section 3: Assessment Procedure Article 15: Comparison of environmental impacts with those of fossil fuels  1. Based on the environmental impact inventory ( <a href="#">Article 13, paragraph 1</a> ), the FOEN assesses whether the fuels do

<sup>1</sup> Article 13(1) 1 The FOEN compiles greenhouse gas and environmental impact inventories, based on the information presented in accordance with Article 9 and applying standard reference values for the consumption phase of the fuels.

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1.9 Environmental sustainability (cross-cutting) (continued)	<p>not give rise to substantially greater environmental impact than petrol of fossil origin.</p> <p>2. In general, environmental impact, as determined by the ecological scarcity method (Article 13, paragraph 2, letter b<sup>2</sup>), is deemed to be substantially greater if it exceeds that of petrol of fossil origin by more than 25 per cent.</p> <p>3. The FOEN takes account of the specific ecological benefits of the production process presented by the applicant in accordance with <a href="#">Article 8</a>.</p>
<b>3. GOVERNANCE</b>	
3.1 Compliance  <a href="#">Back to table of contents</a>	<p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 2: Principle</p> <p>1. To furnish proof of positive aggregate environmental impact, the applicant must provide information on:</p> <ul style="list-style-type: none"> <li>a. the types of fuels (Art. 3);</li> <li>b. the threats to rainforests and biological diversity (Art. 4);</li> <li>c. the entire fuel production chain from feedstock cultivation to receipt of fuels by consumers (Art. 5–7).</li> </ul> <p>2. The information stipulated in paragraph 1 must be comprehensible, traceable and verifiable.</p> <p>3. The applicant must provide documentation that proves the accuracy of the information. The Federal Office for the Environment (FOEN) may demand that independent third parties which it has approved verify and confirm the accuracy of the information.</p>
	<p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 3: Types of fuels</p> <p>The applicant must provide information on:</p> <ul style="list-style-type: none"> <li>a. the designations of the fuels;</li> <li>b. the quality of the fuels, taking account of recognised standards;</li> <li>c. the designations of the renewable feedstocks used to produce the fuels.</li> </ul>
	<p>See <a href="#">Article 4(c)</a> on compliance with environmental regulations on air, soil, water and biodiversity protection at aspect/issue 1.1 Land-use change (direct and/or indirect).</p>

<sup>2</sup> To compile its inventories, the FOEN uses in particular the ecological scarcity method or other methods of comparable quality in terms of verifiability, traceability and completeness.

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ASPECTS/ISSUES	ARTICLES
<p>3.1 Compliance (continued)</p> <p><a href="#">Back to table of contents</a></p>	<p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 6: Fuel production</p> <p>The applicant must provide information on:</p> <ul style="list-style-type: none"> <li>a. the technology used to produce the fuels;</li> <li>b. the types and quantities of energy consumed in the process;</li> <li>c. the types and quantities of auxiliary substances used;</li> <li>d. the types and quantities of products and by-products generated during the production process;</li> <li>e. the energy and economic yields of the products and by-products;</li> <li>f. the types and quantities of wastes generated in the production process as well as their management;</li> <li>g. the greenhouse gases and environmental pollutants released during production of the fuels.</li> </ul> <p>[Also relevant to aspect(s)/issue(s):  <a href="#">1.6</a> GHG emissions;  <a href="#">1.8</a> Waste management; and  <a href="#">1.9</a> Environmental sustainability (cross-cutting).]</p>
	<p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 7: Transport</p> <p>The applicant must provide information on :</p> <ul style="list-style-type: none"> <li>a. the processing sites;</li> <li>b. the means of transport and distances travelled from the feedstock cultivation site to the site where consumers receive the fuels.</li> </ul>
	<p>Section 2: Requirements for Proof of Positive Aggregate Environmental Impact Article 10: Simplified procedure</p> <p>1. The FOEN may release the applicant from the obligation to provide information stipulated in Articles 3–7 if the applicant can prove that the fuels were produced in accordance with a national law or a nationally or internationally recognised standard that is fully or partially equivalent to the minimum requirements for the positive aggregate environmental impact pursuant to Article 19b MinOTO. Applicants must enclose the relevant law or standard with their application.[...]</p>

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<b>ASPECTS/ISSUES</b>	<b>ARTICLES</b>
3.1 Compliance (continued)	See <a href="#">Article 12(2)(c)</a> on non-compliance to regulations on air, soil, water and biodiversity protection at aspect/issue 1.1 Land-use change (direct and/or indirect).