

EU Renewable Energy Directive (RED)

Country/ Organization	European Union		Year and status	2009 (in implementation)
Initiative	Directive 2009/28/EC on the promotion of the use of energy from renewable sources			
Membership	EU Member States			
Governing bodies	European Parliament; and Council of the European Union			
Type and implementation approach	Legislation	Geographical coverage	European Union (including imports)	
Feedstock(s) covered	All	Supply chain coverage	Biofuel feedstock production, processing, and biofuel transportation/distribution and use	
Type(s) of biofuels covered	Biofuels and bioliquids for transport			
Link	http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF			

Overview¹.

In April 2009, the Council of the European Union adopted a directive setting a common EU framework for the promotion of energy from renewable sources (Directive 2009/28/EC). The aim of this legislative act is to achieve by 2020 a 20% share of energy from renewable sources in the EU's final consumption of energy and a 10% share of energy from renewable sources in each member state's transport energy consumption².

To achieve these objectives, the directive established, for each member state, a mandatory national target for the overall share of energy from renewable sources in gross final consumption of energy. This target was set on the basis of the different starting points of the various countries.

The 10% target for the transport sector was set at the same level for each member state, in order to ensure consistency in transport fuel specifications and availability.

Directive 2009/28/EC established a set of sustainability criteria for biofuels and bioliquids³. According to the directive, only biofuels and bioliquids (including those imported

¹ The information included in this section was excerpted and adapted directly from the web-site of the European Union: <http://europa.eu/>

² Member states were required to transpose the directive into national law within 18 months after its publication in the Official Journal of the EU.

³ The directive defines bioliquids as “liquid fuel[s] for energy purposes other than for transport, including electricity, heating and cooling, produced from biomass”.

and/or obtained from raw materials cultivated outside the territory of the Community) that fulfil these criteria⁴ can be taken into account for the following purposes:

- measuring compliance with the requirements of this Directive concerning national targets;
- measuring compliance with renewable energy obligations; and
- eligibility for financial support for the consumption of biofuels and bioliquids.

The sustainability criteria established by the directive relate mainly to the following environmental aspects/issues:

- biodiversity;
- the protection of rare, threatened or endangered species and ecosystems;
- and greenhouse gas emission savings.

Concerning the social and economic dimensions of sustainability, the Directive required the Commission to report, every two years, to the European Parliament and the Council on:

- the impact on social sustainability in the Community and in third countries of increased demand for biofuel;
- the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries;
- the ratification and implementation, in both third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, of:
 - the main ILO Conventions (No 29; No 87; No 98; No 100; No 105; No 111; No 138; and No 182);
 - the Cartagena Protocol on Biosafety; and
 - the Convention on International Trade in Endangered Species of Wild Fauna and Flora.
- and on wider development issues (including the respect of land-use rights).

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).

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⁴ Member States shall require economic operators to show that the sustainability criteria set out in the directive have been fulfilled, though the use of a so-called “mass balance system”.

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ASPECTS/ISSUES	ARTICLES
1. ENVIRONMENTAL	
1.1 Land-use change (direct and/or indirect)	See Article 17(3) on raw material obtained from primary forest at aspect/issue 1.2 Biodiversity and ecosystem services.
	Article 17: Sustainability criteria for biofuels and bioliquids (4) Biofuels and bioliquids [...] shall not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status: (a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year; (b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ; (c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10% and 30%, or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in part C of Annex V is applied, the conditions laid down in paragraph 2 of this Article would be fulfilled. The provisions of this paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.
	Article 17: Sustainability criteria for biofuels and bioliquids (5) Biofuels and bio liquids [...] shall not be made from raw material obtained from land that was peat land in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.
1.2 Biodiversity and ecosystem services Back to table of content	Article 17: Sustainability criteria for biofuels and bioliquids (3) Biofuels and bioliquids [...] shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status: (a) primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed; (b) areas designated: (i) by law or by the relevant competent authority for nature protection purposes; or (ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second subparagraph of Article 18(4); unless evidence is provided that the production of that raw material did not interfere with those nature protection

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1.2 Biodiversity and ecosystem services (continued)	<p>purposes;</p> <p>(c) highly biodiverse grassland that is:</p> <p>(i) natural, namely grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or</p> <p>(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.</p> <p>The Commission shall establish the criteria and geographic ranges to determine which grassland shall be covered by point (c) of the first subparagraph. Those measures, designed to amend non-essential elements of this Directive, by supplementing it shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 25(4).</p> <p>[Also relevant to aspect(s)/issue(s): 1.1 Land-use change (direct and/or indirect).]</p> <p>See Article 17(7) on ratification and implementation of Cartagena Protocol on Biosafety and Convention on International Trade in Endangered Species of Wild Fauna and Flora at aspect/issue 3.1 Compliance.</p> <p>See Article 22(1) on reporting by Member States on estimated impact of the production of biofuels and bioliquids on biodiversity at aspect/issue 3.1 Compliance.</p>
1.3 Productive capacity of land	<p>See Article 17(7) on reporting by the Commission on national soil protection measures at aspect/issue 1.9 Environmental sustainability (cross-cutting).</p> <p>See Article 22(1) on reporting by Member States on estimated impact of the production of biofuels and bioliquids on water resources and water quality at aspect/issue 3.1 Compliance.</p>
1.5 Water availability and quality	<p>See Article 17(7) on reporting by the Commission on national water protection measures at aspect/issue 1.9 Environmental sustainability (cross-cutting).</p> <p>See Article 22(1) on reporting by Member States on estimated impact of the production of biofuels and bioliquids on soil quality at aspect/issue 3.1 Compliance.</p>
1.6 GHG emissions Back to table of content	<p>Article 17: Sustainability criteria for biofuels and bioliquids</p> <p>(2) The greenhouse gas emission saving from the use of biofuels and bioliquids [...] shall be at least 35%.</p> <p>With effect from 1 January 2017, the greenhouse gas emission saving from the use of biofuels and bioliquids [...] shall be at least 50%. From 1 January 2018 that greenhouse gas emission saving shall be at least 60% for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.</p>

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1.6 GHG emissions (continued)	<p>The greenhouse gas emission saving from the use of biofuels and bioliquids shall be calculated in accordance with Article 19(1)⁵.</p> <p>In the case of biofuels and bioliquids produced by installations that were in operation on 23 January 2008, the first subparagraph shall apply from 1 April 2013.</p> <p>See Article 22(1) on reporting by Member States on net greenhouse gas emission saving due to the use of energy from renewable sources at aspect/issue 3.1 Compliance.</p>
1.7 Air quality	See Article 17(7) on reporting by the Commission on national air protection measures at aspect/issue 1.9 Environmental sustainability (cross-cutting).
1.8 Waste management	See Article 22(1) on reporting by Member States on promotion of use of renewable energy including from wastes and residues and development and share of biofuels made from wastes and residues at aspect/issue 3.1 Compliance.
1.9 Environmental sustainability (cross-cutting) Back to table of content	<p>Article 17: Sustainability criteria for biofuels and bioliquids</p> <p>(6) Agricultural raw materials cultivated in the Community and used for the production of biofuels and bio liquids [...] shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading ‘Environment’ in part A and in point 9 of Annex II to Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 6(1) of that Regulation [see below].</p> <p><i>Statutory management requirements under the heading ‘Environment’, Annex II of Council Regulation (EC) No 73/2009 of 19 January 2009:</i></p> <ul style="list-style-type: none"> (i) <i>Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ L 103, 25.4.1979, p. 1)</i> (ii) <i>Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 20, 26.1.1980, p. 43)</i> (iii) <i>Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture (OJ L 181, 4.7.1986, p. 6)</i> (iv) <i>Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1)</i> (v) <i>Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (OJ L</i>

⁵ For the calculation of the greenhouse gas impact of biofuels and bioliquids, in addition to article 19(1), see Annex V of Directive 2009/28/EC.

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<p>1.9 Environmental Sustainability (cross-cutting) (continued)</p> <p>Back to table of content</p>	<p>206, 22.7.1992, p. 7)</p> <p><i>Statutory management requirements under Point 9, Annex II of Council Regulation (EC) No 73/2009 of 19 January 2009:</i></p> <p>(i) <i>Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1)</i></p> <p><i>Article 6(1) of Council Regulation (EC) No 73/2009 of 19 January 2009:</i></p> <p><i>“Member States shall ensure that all agricultural land, especially land which is no longer used for production purposes, is maintained in good agricultural and environmental condition. Member States shall define, at national or regional level, minimum requirements for good agricultural and environmental condition on the basis of the framework established in Annex III, taking into account the specific characteristics of the areas concerned, including soil and climatic condition, existing farming systems, land use, crop rotation, farming practices, and farm structures. Member States shall not define minimum requirements which are not foreseen in that framework”.</i></p> <hr/> <p>Article 17: Sustainability criteria for biofuels and bioliquids</p> <p>(7) The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in Article 17.2 to 17.5 and for soil, water and air protection. The first report shall be submitted in 2012 [...] The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.</p> <p>[Also relevant to aspect(s)/issue(s):</p> <p>1.3 Productive capacity of land;</p> <p>1.5 Water availability and quality; and</p> <p>1.7 Air quality.]</p>
2. SOCIO-ECONOMIC	
2.1 Land tenure/access and displacement	See Article 17(7) on reporting by the Commission on national respect of land-use rights at aspect/issue 2.8 Social sustainability (cross-cutting).
2.4 Employment, wages and labor conditions	See Article 17(7) on ratification and implementation of ILO conventions concerning labour conditions at aspect/issue 3.1 Compliance.
2.8 Social sustainability (cross-	Article 17: Sustainability criteria for biofuels and bioliquids

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cutting)	<p>(7) [...] The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues. Reports shall address the respect of land-use rights. [...] The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.</p> <p>[Also relevant to aspect(s)/issue(s): 2.1 Land tenure/access and displacement; 4.1 Food availability; and 4.2 Food access.]</p>
3. GOVERNANCE	
<p>3.1 Compliance</p> <p>Back to table of content</p>	<p>Article 17: Sustainability criteria for biofuels and bioliquids</p> <p>(7) [...] The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues. Reports shall address the respect of land-use rights. They shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented each of the following Conventions of the International Labour Organisation:</p> <ul style="list-style-type: none"> — Convention concerning Forced or Compulsory Labour (No 29), — Convention concerning Freedom of Association and Protection of the Right to Organise (No 87), — Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (No 98), — Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value (No 100), — Convention concerning the Abolition of Forced Labour (No 105), — Convention concerning Discrimination in Respect of Employment and Occupation (No 111), — Convention concerning Minimum Age for Admission to Employment (No 138), — Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (No 182). <p>Those reports shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented:</p>

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<p>3.1 Compliance (continued)</p> <p>Back to table of content</p>	<p>— the Cartagena Protocol on Biosafety, — the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.</p> <p>[Also relevant to aspect(s)/issue(s): 1.2 Biodiversity and ecosystem services; and 2.4 Employment, wages and labor conditions.]</p> <p>Article 22: Reporting by the Member States (1) Each Member State shall submit a report to the Commission on progress in the promotion and use of energy from renewable sources by 31 December 2011, and every two years thereafter. The sixth report, to be submitted by 31 December 2021, shall be the last report required. The report shall detail, in particular:</p> <ul style="list-style-type: none"> (a) the sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources in the preceding two calendar years and the measures taken or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory in part B of Annex I, in accordance with Article 5; (b) the introduction and functioning of support schemes and other measures to promote energy from renewable sources, and any developments in the measures used with respect to those set out in the Member State's national renewable energy action plan, and information on how supported electricity is allocated to final customers for purposes of Article 3(6) of Directive 2003/54/EC; (c) how, where applicable, the Member State has structured its support schemes to take into account renewable energy applications that give additional benefits in relation to other, comparable applications, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material; (d) the functioning of the system of guarantees of origin for electricity and heating and cooling from renewable energy sources and the measures taken to ensure the reliability and protection against fraud of the system; (e) progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of energy from renewable sources; (f) measures taken to ensure the transmission and distribution of electricity produced from renewable energy sources, and to improve the framework or rules for bearing and sharing of costs referred to in Article 16(3);

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3.1 Compliance (continued)	<p>(g) developments in the availability and use of biomass resources for energy purposes;</p> <p>(h) changes in commodity prices and land use within the Member State associated with its increased use of biomass and other forms of energy from renewable sources;</p> <p>(i) the development and share of biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material;</p> <p>(j) the estimated impact of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within the Member State;</p> <p>(k) the estimated net greenhouse gas emission saving due to the use of energy from renewable sources;</p> <p>(l) the estimated excess production of energy from renewable sources compared to the indicative trajectory which could be transferred to other Member States, as well as the estimated potential for joint projects, until 2020;</p> <p>(m) the estimated demand for energy from renewable sources to be satisfied by means other than domestic production until 2020; and</p> <p>(n) information on how the share of biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates.</p> <p>[Also relevant to aspect(s)/issue(s): 1.2 Biodiversity and ecosystem services; 1.3 Productive capacity of land; 1.5 Water availability and quality; 1.6 GHG emissions; 1.8 Waste management; and 4.2 Food access.]</p>
3.2 Participation and transparency Back to table of content	<p>Article 18: Verification of compliance with the sustainability criteria for biofuels and bioliquids</p> <p>(3) Member States shall take measures to ensure that economic operators submit reliable information and make available to the Member State, on request, the data that were used to develop the information. Member States shall require economic operators to arrange for an adequate standard of independent auditing of the information submitted, and to provide evidence that this has been done. The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud. It shall evaluate the frequency and methodology of sampling and the robustness of the data. [...] Member States shall submit to the Commission, in aggregated form, the information referred to in the first subparagraph of this paragraph. The Commission shall publish that information on the transparency platform referred to in</p>

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<p>3.2 Participation and transparency (continued)</p> <p>Back to table of content</p>	<p>Article 24 [see below] in summary form preserving the confidentiality of commercially sensitive information.</p> <p>Article 24: Transparency platform. [...]</p> <p>(1) The Commission shall establish an online public transparency platform. That platform shall serve to increase transparency, and facilitate and promote cooperation between Member States, in particular concerning statistical transfers referred to in Article 6 and joint projects referred to in Articles 7 and 9. In addition, the platform may be used to make public relevant information which the Commission or a Member State deems to be of key importance to this Directive and to the achievement of its objectives.</p> <p>(2) The Commission shall make public on the transparency platform the following information, where appropriate in aggregated form, preserving the confidentiality of commercially sensitive information:</p> <ul style="list-style-type: none"> (a) Member States' national renewable energy action plans; (b) Member States' forecast documents referred to in Article 4(3), complemented as soon as possible with the Commission's summary of excess production and estimated import demand; (c) Member States' offers to cooperate on statistical transfers or joint projects, upon request of the Member State concerned; (d) the information referred to in Article 6(2) on the statistical transfers between Member States; (e) the information referred to in Article 7(2) and (3) and Article 9(4) and (5) on joint projects; (f) Member States' national reports referred to in Article 22; (g) the Commission reports referred to in Article 23(3). <p>However, upon request of the Member State that submitted the information, the Commission shall not make public Member States' forecast documents referred to in Article 4(3), or the information in Member States' national reports referred to in Article 22(1)(l) and (m).</p> <p>Article 21: Specific provisions related to energy from renewable sources in transport</p> <p>(1) Member States shall ensure that information is given to the public on the availability and environmental benefits of all different renewable sources of energy for transport. When the percentages of biofuels, blended in mineral oil derivatives, exceed 10% by volume, Member States shall require this to be indicated at the sales points.</p>
4. FOOD SECURITY	
4.1 Food availability	See Article 17(7) on reporting by the Commission on availability of foodstuffs at affordable prices at aspect/issue 2.8 Social sustainability (cross-cutting).

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4.2 Food access Back to table of content	See Article 17(7) on corrective action if evidence shows that biofuel production has a significant impact on food prices at aspect/issue 2.8 Social sustainability (cross-cutting). See Article 22(1) on reporting by Member States on changes of commodity and land prices associated with increase use of biomass from renewable sources at aspect/issue 3.1 Compliance.